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A SYMPOSIUM ON

MEASURING MANAGERIAL ABILITY of FARMERS

CHICAGO, ILLINOIS
DECEMBER 17 and 18,1962

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NORTH CENTRAL REGIONAL RESEARCH COMMITTEE
ON
THE MANAGEMENT RESOURCE IN FARMING (NC-59)
AND
THE FARM FOUNDATION

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NORTH CENTRAL REGIONAL COMMITTEE FOR RESEARCH

ON THE MANAGEMENT RESOURCE IN FARMING

This regional committee was established by the directors of the agricultural experiment stations in the North Central Region to identify and measure managerial ability of farm operators. This symposium was organized to provide background material for the regional research project committee.

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INTRODUCTION

The farmer of today does not resemble his counterpart of a generation ago, and it is likely that the farmer of the next generation will bear slight, if any, resemblance to farmers of the present day. The farmer today wears many hats in his role of the producer of food and fiber for the United States and the world. He may be several things at one time, such as a livestock feeder, crop producer, machine repairman, marketing agent, and storage man. In addition he has the important role of family provider and community citizen. Many other roles could be mentioned, but a common denominator exists in most, if not all, of these roles, that is, he must possess certain managerial skills.

Industry has long recognized, with the assistance of specialists from business psychology and sociology, the importance of selecting the right man for the role of management. Those chosen are given specialized training if needed, but usually their responsibility covers only a limited part of the business. For this reason he can become highly skilled in the management of that particular phase. This situation in a general way does not exist in agriculture at the farm level.

What makes a good farm manager? How important are personal traits and characteristics of individuals to assure success? What are the influences of outside institutional segments on managers? These and many more questions arise in trying to develop concepts of "what is a good farm manager." No longer does a strong back, a willing wife, and a few thousand dollars assure success for the beginning farm operator.

Because of the inability to answer such questions as above or to even come close to some management success concepts, members of the NCA-4 Committee, made up of department heads in Agricultural Economics in the North Central Region, placed the measurement of managerial skills in a high priority for regional research support. The work of the NCT-53 Committee, its administrative adviser, Dr. Glenn Beck of Kansas, and individual committee members did much to acquaint the North Central Experiment Station directors with the problems, and the need to establish research that would focus attention on managerial ability of farmers. The committee charged with this research responsibility is NC-59.

The NCT-53 Committee recognized early that they alone could not define the criteria which measure managerial skill and assure success. Therefore they requested in their research proposal that funds be set aside for a symposium on "Measuring Managerial Ability of Farmers." The request was granted, and serves as testimony the importance directors placed on this problem. As a participant in this Symposium, I am impressed with this approach to research stimulations, and suggest that it may be a desirable use of Regional Research Funds in other problem areas.

The Symposium Planning Committee called upon disciplines not usually associated with training in Agricultural Economics. They enlisted the assistance of Dr. John Brewster, U.S.D.A., E.R.S., who is a philosopher by training and in practice. Dr. Carl Frost, of the Department of Psychology at Michigan State University, was a major participant. Dr. Frost does research and teaching, and consulting within the area of Industrial Psychology. Contact was made with a sociologist, but prior commitments kept him from fulfilling the request for assistance.

The papers to follow were those presented at the Symposium held at the Farm Foundation on December 17-18, 1962. The discussions following each paper were prepared by NC-59 Committee members. They record the reactions and concerns of the participants. We trust that you will carefully and completely read these papers and discussions. By so doing, you too may capture partially the stimulation offered the committee as they pursue their respective projects. Hopefully the results of this pursuit will be a contribution to our knowledge of managerial ability and its influence on successful farm operations.

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AGRICULTURAL ECONOMICS RESEARCH RELATED TO THE MEASUREMENT OF MANAGERIAL ABILITY

by

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As one part of this symposium, I have been asked to review agricultural economics research which is specifically related to the measurement of managerial ability. Given this topic, one might be tempted to make short work of it merely by saying that no such research exists. If a narrow and rigorous concept of the measurement of management were to be accepted, it would be possible to successfully defend such a viewpoint. In fact, under this condition such a viewpoint probably would be mandatory. However, given the state of our knowledge about management and the measurement of management, it is doubtful if such a narrow concept is warranted. Certainly, this negative approach would not be very helpful in the attainment of the ends of this symposium.

At the outset, however, I think we must recognize several facts of life with respect to the subject of this symposium. In the first place, brief reflection on the content of the substantive and growing body of empirical knowledge within the field of agricultural economics is sufficient to indicate clearly that an extremely small proportion of our research resources have been or are being used for the investigation of this specific problem. It is not possible to judge nor appropriate to discuss, here, the question of whether or not the profession should have used and/or ought to be using a greater share of its research resources toward the end of identifying and measuring management. We merely note the current situation in this respect. This symposium in itself is sufficient evidence that there exists in some quarters the feeling that such is a significant and worthwhile activity. Second, to the best of my knowledge, there exists no research within the field of agricultural economics that we would be willing to accept as having directly measured the managerial ability of farmers. This seems almost unbelievable when we stop to reflect that the science of agricultural economics is concerned, in the most basic and fundamental way, with the management of resources at all levels of aggregation. However, it is true! We simply have not been able to satisfactorily measure the one variable which undoubtedly plays a crucial role in the allocation and utilization of the resources. While there are many good and sufficient reasons for this, it is another relevant fact of life to this symposium. Third, there does not exist a single theoretical concept of management which has been developed and tested to the point where it enjoys general acceptance and utilization by the agricultural economics profession. It is true that there has been increasing interest and activity among agricultural economists in the conceptualization of management. Too, there have been some interesting and valuable attempts to empirically test certain of these notions and concepts. Yet, we cannot say that there exists a completely satisfactory concept of management.

With these thoughts in mind, let us turn to a brief consideration of certain pieces of research within agricultural economics and allied disciplines which are related to and/or represent attempts to "get at" the obviously difficult problem of measuring management. What follows makes no pretense of being an exhaustive review of all studies of this gender. Rather it is intended to indicate, in a very general way, the kinds of things which have been done and the implications of such studies to the problem with which we are faced; i.e., the identification and measurement of management.

For this purpose, it would appear desirable and useful to group the several existing research efforts into categories which tend to be mutually exclusive from the viewpoint of the nature and objectives of the research. The following categories appear to be meaningful:

1. Studies designed to isolate relationships between characteristics (personal, biographical, psychological) of farm operators, farm wives, and/or farm families and some measure of performance or "success" in farming.

2. Studies designed to develop instruments by which the probable performance or "success" of individuals in farming might be predicted.

3. Studies designed to treat management as an explicit variable in analyses of economic problems.

4. Studies designed to develop and test the validity of concepts about the nature of the management function, per se.

In agricultural economics literature, we find a number of studies which tend to fit in the first of the above categories. Among these we may cite the works of Wilcox, Boss and Pond (30, 31, 16); Wilcox and Lloyd (32); Reiss (19); Straus (22, 23, 24); Blanchard, Thomas and McCormick (1, 2, 13, 25); MacEachern, Thomas and Eisgruber (11, 12); and Hess and Miller (4). While these studies span a period of some 30 years, were conducted in various parts of the country, and involved widely different components of the farm population, they all had the same general hypothesis; namely, that some portion of the variation in some measure of "success" in the operation of a farm business could be explained by differences in characteristics of farmers, their wives and/or their families.

Wilcox, Boss and Pond investigated relationships between personal characteristics of farmers and "success" as measured by farm earnings. They concluded that factors such as the wife's interest and help, ambition to succeed, interest in farming, technical knowledge and farm experience contributed to success in farming. Wilcox and Lloyd made a similar study among a sample of Indiana farmers and arrived at similar conclusions. In Illinois, Reiss was successful in differentiating between good and poor farm managers by differences in a series of personal characteristics. Utilizing a composite index of several factors as a "success" criterion, Straus isolated personal attributes which differentiated between "high success" and "low success" settlers in the Columbia Basin Project. Blanchard, Thomas and McCormick tested the general hypothesis that variation in the ability of tenant farm operators could be explained by variation in the personal attributes of (a) the tenant-farmers, (b) wives of the tenant-farmers and (c) interaction of the personal attributes of tenant farmers and their wives. The population consisted of tenants operating farms under professional farm management services in Indiana. The criterion of tenant ability utilized was a rating of the tenants by the professional farm managers concerned. These studies enjoyed a reasonable degree of success in isolating individual and joint tenant-wife attributes associated with level of tenant ability or performance. In a follow-up study, MacEachern, Thomas, and Eisgruber utilized data from the original Blanchard, Thomas, McCormick studies and employed factor analysis in an attempt to isolate basic abilities important to success in farming. They conclude that the most important factors influencing success in farming are: education, job mobility, farm-family inter-personal relations and family farm inter-personal relations. Hess and Miller examined relationships between various personal and sociological factors and relative success of a sample of Pennsylvania dairy farmers.

While the above is incomplete and too brief to explain fully these studies, it should serve to indicate the fundamental nature of studies of this first type. Let us consider such studies in light of their possible contribution to the chore with which we are faced--the identification and measurement of management. In the first place, I think we must admit that they do not identify, conceptually nor empirically, the management factor, per se. They do not provide a direct measure of management--nor do they purport to do so. It will be noted that in each case, it was necessary to accept some criterion measure of success or performance in farming. The measure or measures used varied from study to study; however, it appears that the measures of success or performance used could be, at least in part, a function of the managerial ability of farmers. It appears equally likely that these measures are not a unique function of managerial ability but rather of some composite of human inputs, and, perhaps, other inputs as well. Implicit (if not explicit) in many of these studies is the assumption that managerial ability is related, in some way and to some degree, to the criterion measure of success. To the degree that such assumptions are valid, the findings of these studies provide insights relative to the kinds of human attributes which might be important in understanding management and in attempts to explain variation in managerial ability when this factor is, in fact, identified and more exact methods of measurement developed.

Another common characteristic of studies in this first category of research is the tendency to be highly empirical in nature. They tend to suffer from the lack of a well-developed theory of human behavior, in general, and from the lack of a well-developed theory of managerial behavior, in particular. This in no way should be construed as a reflection on the research, itself, nor on the researchers who have been involved in these works. It merely reflects the stage of development of this particular aspect of social science. However, we may expect these research efforts to have the same kinds of limitations as many farm management studies of the "traditional" variety. By the same token, they may be expected to have a great deal of practical value in the same manner as have a multitude of "traditional" farm management studies. Further, it is possible for such studies to provide valuable and useful information toward a better understanding of management and to contribute greatly to the formulation, testing and subsequent reformulation of a theory of managerial behavior. It is in this sense that research work of this first type may make its greatest contribution to the ultimate identification and measurement of management.

There appears to be one additional way in which research falling into this first category might contribute to the identification and measurement of management. This is in the methodological sense. Measurement techniques and analytical tools utilized are designed to attack problems of human behavior of one type or another. In view of the fact that management must be considered as a very specific kind of human behavior, it appears that measurement techniques and analytical tools appropriate to these types of studies will also be useful in studies designed specifically to identify, measure, predict and understand managerial behavior. Even if we are completely successful in the solution of significant conceptual problems surrounding managerial ability, satisfactory and useful empirical analyses will encounter extremely difficult measurement, analytical and methodological problems. It is doubtful if the usual empirical tools of the agricultural economist are completely adequate for such problems. Hence, methodologies employed in the type of study under discussion might furnish a useful means of investigation.

The second broad category of studies that I would like to discuss consists of research designed to develop and validate instruments by which the probable performance of individuals in farming might be predicted. Such research is

closely related to research in the category discussed above in that these efforts are always based on studies of the first type. Studies which fall in this category utilize known relationships between personal attributes or characteristics and some criterion measure of "success" or performance in farming to construct and validate instruments (questionnaires, tests, etc.) by which the probable performance or success of individuals in farming may be predicted.

Many such studies and prediction instruments derived from these studies exist. They are rather commonly used for occupations in the industrial sectors of our economy. Such is not the case in agriculture. However, a few have been made and some prediction devices are available for agricultural occupations. Typical of these are those developed by Straus (23), and by Thomas, Blanchard and McCormick (14, 27, 28, 29).

Straus constructed a Settler Self-Inventory instrument having validity in the prediction of the probable success of prospective settlers in the Columbia Basin Project. This selection device is based on personality, attitudinal and background factors found to be associated with success. Thomas, Blanchard and McCormick developed two instruments having validity in predicting the probable level of performance of prospective tenants for Indiana farms operated under professional farm management. One of these instruments is based on known relationships between biographical characteristics of farm tenants and their performance as farm operators. The other is based on known relationships between tenant ability and biographical characteristics of tenants and similar characteristics of tenant wives. Either of these instruments will provide estimates of the "chances" of a prospective tenant being an "above average" or "below average" farm operator.

While a few other studies of this type have been or are being conducted, the above should suffice to indicate the general nature of this category of research. The relevant question, at this point, concerns the implication of research of this gender to the problem of identifying and measuring management. Again, we must recognize that such studies neither identify nor measure management directly. They do, however, provide a means whereby the level of performance of individuals in specific types of human activities, supposedly involving some element of managerial activity, may be objectively predicted. The immediate usefulness of this type work is clear. In addition, such studies suggest the exciting possibility of being able to develop similar prediction instruments specifically for managerial ability--when and as we develop increasingly more exact measures of this particular aspect of human behavior. The existing barrier to the realization of this possibility appears to be primarily the lack of a satisfactory means by which management might be measured.

The third large research category consists of studies designed to treat management as an explicit variable in analysis of economic problems. This possibility, of course, has been the dream of many agricultural economists since people first began to worry about the economic problems of agriculture. There is general agreement that management, per se, is an important variable affecting the efficiency with which resources are allocated and utilized. Despite this agreement, virtually all economic analysts of agricultural problems have been forced to work under the handicap of not being able to quantify this variable. While this has not been a significant problem in many facets of analyses in agricultural economics, it has been in others. There have been a few attempts to treat management as an explicit variable in more or less conventional economic models. The work of Pugh, Eisgruber and Thomas (17, 18) and the work of Paris (15) come to mind. Pugh, Eisgruber and Thomas, for example, utilized various indices of farm tenant ability developed by Blanchard, Thomas and McCormick

in the estimation of a series of production functions for a sample of Indiana farms in which these indices of tenant ability were included as explicit variables. While results of this work were perhaps less definitive than hoped, they do clearly point out the possibilities of analyses in which management is included as an explicit variable. At the same time, this work further indicates the inherent dangers of conclusions drawn from analyses in which management is ignored.

In appraising research in this category in terms of the identification and measurement of the management factor, I think that we must conclude that it makes little direct contribution to the solution of the central problem involved. Its importance lies in indicating one of several potential uses of measures of management and, hence, the significance of the work of this symposium and the regional research effort that is being initiated.

While the studies cited above were concerned with resource productivity estimates and related matters, one can visualize the usefulness of measures of managerial ability in the study of economic problems involving supply analysis, size and scale problems, agricultural adjustment, economic development and the like. It is likely that analytical models which treated managerial ability explicitly would permit more meaningful analysis of these and related problems than would otherwise be the case.

This brings me to the final category of agricultural economics research related to the measurement of management--studies designed to develop and test the validity of concepts about the nature of the management function. As previously noted, there has been increasing interest in recent years in conceptualizing management and in the empirical verification of these concepts. Perhaps the most comprehensive of these efforts is that of the Interstate Managerial Study (5, 8) and the works of Johnson (7), Johnson and Haver (6) and others (3, 9, 10, 20, 21). Studies in this category have brought to light significant pieces of information and insights of interest not only to the problem of measuring management but also to a wide variety of economic problems of agriculture. While most would agree that we still know very little about the management function, our current state of knowledge does seem to warrant the following points, germane to the question under discussion:

(1) Management is an extremely complex human activity.

(2) In a functional sense, it consists of various components.

(3) The performance of any one of these component activities is dependent upon the performance of other components, i.e., they are interdependent.

(4) The resultant managerial behavior, considered as a productive service, depends on the individual components and upon the interaction among the several components.

If this be true, then it would appear that the problem of measuring management may involve the measurement of the several component activities of the complex function and the determination of the interaction effects existing among the components. In fact, it appears doubtful to me if it will be possible to measure management in a satisfactory way without (a) taking into full consideration the nature of the management function and (b) devising means by which its various components might be quantified. It is here that the research that has been done in this latter category of agricultural economics research related to

the measurement of management will be most helpful. Admitting that knowledge in this area is far from perfect, enough is known to provide a reasonable conceptual base upon which to begin (at least) the construction of valid measures of management.

It is this latter point that I should like to emphasize. We know that research results tend to be most meaningful and useful when based on a theory which is logical and relevant to the problem under study. This is true across the gamut of sciences. We may confidently expect it to be true in research designed to identify and measure managerial ability. In this regional effort, we are working with limited resources. We shall probably continue to do so. It becomes imperative, therefore, that we select research problems with the utmost of care, that we really "zero in" on the crucial elements of these problems and that we pursue our research in the most efficient manner possible. It is my contention that concepts and knowledge which have been generated in research efforts, both conceptual and empirical, in this final category of studies constitutes the nuclei of a theoretical base upon which to proceed. Incomplete as it is, it is the best that we have. We must start from where we are. Properly used, existing concepts, knowledge and notions about the managerial process can materially sharpen our efforts to identify and measure management. We should take advantage of this to the fullest extent possible.

In closing, I should like to draw attention to one additional point. This is with reference to the particular orientation that studies designed to identify and measure managerial ability might be given. I think we need to recognize that the solution of this problem will probably necessitate an inter-disciplinary approach. Too, it will probably necessitate the use of analytical methods developed and more commonly used by disciplines other than our own. This in itself is not bad. However, there appears to be one possible danger associated with these necessities. This danger lies in the inherent tendency to orient such studies in a frame of reference somewhat foreign to and not completely compatible with the solution of the specific problems with which we, as agricultural economists, are primarily concerned. These are the economic problems of agriculture. It seems to me that in working in the area of concern to this regional project that we must constantly keep several important factors in mind. Our immediate concern is to identify and find some means of measuring managerial ability. To this, we are committed. But in a little broader sense, we are concerned with the identification and measurement of management not as an end in itself but rather to enable us to be more proficient in our researches into economic problems of agriculture. It would seem to follow, then, that the alternative approaches which we might take to the immediate problem of identifying and measuring managerial ability should be subjected to careful scrutiny against criteria involving the probable usefulness of results of alternative approaches in the provision of research answers to economic problems of agriculture. In short, we must not lose sight of the fundamental reason why we want to measure managerial ability.

SELECTED REFERENCES

1. Blanchard, Robert E., A Personal History Questionnaire for the Selection of Tenant Farmers for Farm Management Services, unpublished M.S. thesis, Purdue University, Lafayette, Indiana, January, 1958.

2. _____, The Development and Validation of Instruments for Selecting Farm Operators for Farm Management Services, unpublished Ph.D. thesis, Purdue University, Lafayette, Indiana, August, 1959.

3. Chastain, E. D., An Empirical Study of the Decision-Making Process in Farm Management, unpublished Ph.D. thesis, Purdue University, Lafayette, Indiana, August, 1956.

4. Hess, C. V. and Miller, L. F., Some Personal, Economic, and Sociological Factors Influencing Dairymen's Actions and Success, Bulletin 577, Pennsylvania State University, Agricultural Experiment Station, State College, Pennsylvania, June, 1954.

5. Interstate Managerial Project Committee, Summary Data from the Interstate Managerial Survey, Bulletin 669, Kentucky Agricultural Experiment Station, University of Kentucky, Lexington, Kentucky, June, 1959.

6. Johnson, Glenn L., Managerial Concepts for Agriculturalists, Bulletin 619, University of Kentucky, Kentucky Agricultural Experiment Station, Lexington, Kentucky, July, 1954.

7. _____, and Haver, Cecil B., Decision Making Principles in Farm Management, Bulletin 593, Kentucky Agricultural Experiment Station, University of Kentucky, July, 1954.

8. _____, A. N. Halter, H. R. Jensen and D. W. Thomas (Ed's), A Study of Managerial Processes of Midwestern Farmers, The Iowa State University Press, Ames, Iowa, 1961.

9. Lee, John E., Jr., An Empirical Study of the Problem Recognition Step in Managerial Adjustment, unpublished M.S. thesis, Alabama Polytechnic Institute, Auburn, Alabama, 1958.

10. _____, and Chastain, E. D., Problem Recognition in Agriculture, Bulletin 319, Alabama Polytechnic Institute Agricultural Experiment Station, Alabama Polytechnic Institute, Auburn, Alabama, November, 1959.

11. MacEachern, Gordon A., Analysis of Human Attributes and Their Relationship to the Level of Tenant Performance, unpublished M.S. thesis, Purdue University, Lafayette, Indiana, June, 1961.

12. _____, D. Woods Thomas and Ludwig M. Eisgruber, Analysis of Human Attributes and Their Relationship to Performance Level of Farm Tenants, Bulletin 751, Indiana Agricultural Experiment Station, Purdue University, Lafayette, Indiana, November, 1962.

13. McCormick, Ernest J., R. E. Blanchard and D. Woods Thomas, An Objective Method of Selecting Farm Tenants, Research Bulletin 678, Indiana Agricultural Experiment Station, Purdue University, Lafayette, Indiana, 1959.

14. _____, R. E. Blanchard and D. Woods Thomas, Examiner Manual - Personal History Questionnaire for Tenant Farm Operators, Mimeo. EC-165, Indiana Agricultural Experiment Station, Purdue University, Lafayette, Indiana, 1959.

15. Paris, D. G., Predicting Firms Behavior from Estimates of Input Productivity for a Sample of Western Kentucky Farms, unpublished Ph.D. thesis, University of Kentucky, 1960.

16. Pond, George A., and Wilcox, Walter W., "A Study of the Human Factor in Farm Management," Journal of Farm Economics, Volume 14, No. 13, July, 1932, pp. 470-479.

17. Pugh, Charles R., Tenant Ability and Resource Productivity of Farms with Farm Management Services in Indiana, unpublished Ph.D. thesis, Department of Agricultural Economics, Purdue University, Lafayette, Indiana, August, 1961.

18. _____, L. M. Eisgruber and D. Woods Thomas, Use of Personal History Questionnaires for Tenant Farm Operators in Predicting Farm Output, Research Bulletin, Indiana Agricultural Experiment Station, Purdue University, Lafayette, Indiana, (in process).

19. Reiss, F. J., "Measuring the Management Factor," Journal of Farm Economics, Proceedings Number, Volume 31, No. 4, Part 2, November 1949, pp. 1,065-1,072.

20. Rieck, Robert E. and Glen C. Pulver, An Empirical Measure of Decision Making, Research Bulletin 238, Agricultural Experiment Station and Cooperative Extension Service, University of Wisconsin, Madison, Wisconsin, June, 1962.

21. Schwart, Robert B., The Relation of Variations in Education to the Decision Making of Farmers, unpublished Ph.D. dissertation, Ohio State University, Columbus, Ohio, 1958.

22. Straus, Murray A., Direct, Indirect, and Disguised Measurement in Rural Sociology, Technical Bulletin 26, Washington Agricultural Experiment Station, Washington State College, Pullman, Washington, August, 1957.

23. _____, Matching Farms and Families in the Columbia Basin Project, Bulletin 588, Washington Agricultural Experiment Station, Washington State College, Pullman, Washington, June, 1958.

24. _____, A Technique for Measuring Values in Rural Life, Technical Bulletin 29, Washington Agricultural Experiment Station, Washington State College, Pullman, Washington, August, 1959.

25. Thomas, D. Woods, E. J. McCormick and R. E. Blanchard, "Farm Tenant Selection--An Objective Method," Journal of the American Society of Farm Managers and Rural Appraisers, Vol. XXII, No. 2, October, 1958.

26. _____, and R. J. Amick, Information Needs in Farm Management, Research Bulletin 705, Indiana Agricultural Experiment Station, Purdue University, Lafayette, Indiana, September, 1960.

27. _____, Ernest J. McCormick and Robert E. Blanchard, Administration Manual - Personal History Questionnaires for Tenant Farm Operators and Tenant-Wife Teams, Mimeo. EC-230, Indiana Agricultural Experiment Station, Purdue University, Lafayette, Indiana, 1961.

28. _____, Personal History Questionnaire for Tenant Farm Operators - Form B, Department of Agricultural Economics and the Occupational Research Center, Purdue University, Lafayette, Indiana, 1961.

29. _____, Personal History Questionnaire for Tenant-Wife Teams - Form A, Department of Agricultural Economics and Occupational Research Center, Purdue University, Lafayette, Indiana, 1961.

30. Wilcox, Walter W., "The Human Factor from the Viewpoint of Farm Management," Journal of Farm Economics, Volume 14, No. 1, January, 1932, pp. 119-127.

31. _____, Boss, Andrew and Pond, George A., Relation of Variations in the Human Factor to Financial Returns in Farming, Bulletin 288, Minnesota Agricultural Experiment Station, University Farm, St. Paul, Minnesota, June, 1932.

32. _____, and Lloyd, O. G., The Human Factor in the Management of Indiana Farms, Bulletin 369, Purdue Agricultural Experiment Station, Purdue University, Lafayette, Indiana, August, 1932.

THE ACHIEVEMENT MOTIVE AND ENTREPRENEURIAL BEHAVIOR

by

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Since World War II marked progress has been made in the study of motivations. The term "break-through" may be as applicable to the behavioral sciences of the last 25 years as to physics and chemistry.

An important lead-off book in the field of motivation was Eric Fromm's Escape From Freedom, published in 1941. It dealt with how and why a demonic genius like Hitler could get a whole nation under his thumb. Drawing on concepts from psychoanalysis, Fromm explained that the German people wanted to surrender their wills to Hitler's will because he offered them an escape from their acute boredom with freedom and responsibility for making decisions on their many problems.

In 1950, David Reisman published The Lonely Crowd: A Study of the Changing American Character. This publication has been called the most influential book of the 1950's. Its central thesis is that the typical American character is now shifting from an "inner directed" type of personality, which was suited to the "production oriented" economy of 19th century America, to the "other directed" type of personality which is better adjusted to the highly "market oriented" economy of the 20th century. Close upon the heels of Reisman's book came Whyte's book in 1956 on The Organization Man. In this book, Whyte employed Reisman's basic concept of the "other directed" personality in analyzing the ideology, the training, the neuroses, the tests of personal excellence, and the home life of people who "only work for the organization." 1/

Fromm, Reisman, and Whyte provided new mirrors of the part vast organizations--government and corporation--play in shaping the character of people. They did so through identifying new types of motivations--new types of prized personal qualities--why and how they are acquired. These authors directly and indirectly caused many knowledgeable persons to take a hard look at hitherto unquestioned presuppositions which managers have long used in defining their social role, organizing their firms, and handling their personnel.

Yet these writers have had little impact on economists. The reason is clear. The specific drives of Whyte's "organization man" or of Reisman's "tradition directed man," "other directed man," and "inner directed man" shed little or no light on the nature of entrepreneurial behavior. Neither are these motivations the source of conflicting beliefs and values which are the heart of policy struggles over what ought and ought not be done on specific issues, such as the farm surplus problem, the medical care problem, the national unemployment problem, and the like. Finally, the motivations investigated by these scientists have no apparent relevance to the problem of generating economic progress among static societies--a problem that has been uppermost with economists since the close of World War II.

But these limitations do not hold for McClelland's recent book, The Achieving Society. 2/ This book gets into vital concerns of the economist. It brings

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1/ Whyte, William H. Jr., "The Organization Man," Simon & Schuster, N.Y., 1956, p.3.
2/ McClelland, David C., "The Achieving Society," D. Van Northstrand, Inc., 24 West 40th Street, New York 18, N.Y., 1961.

together and evaluates massive research investigations of what psychological variables are causally related to economic development. Financed by the Ford Foundation, this project in its various phases was carried out by many workers during the 1950's.

Of the numerous motives investigated, the ones found to be universally important in economic development are called "the need for achievement" and "other directedness," meaning sensitivity to the sentiments of others as reflected in public opinion, often referred to in this book as the "generalized other"--a concept first made central to social psychology by George Herbert Mead. 3/ Of these two motivations, the "need for achievement" is of overriding importance in economic development.

In recent years, psychologists have developed methods for obtaining numbers to represent the levels of the achievement motive among individuals and cultural groups.

To see if there is a distinct causal relationship between change in the general level of the achievement motive and change in the level of economic development, McClelland and his associates carried out measurements of psychological and economic variables in 40 contemporary nations from 1925 through 1950. They also carried out similar measurements for the Ancient Greek civilization from 900 to 100 B.C., for Medieval Spain from 1200 to 1730, and for the English economy from 1500 to 1830. All their findings converged to the same conclusion: A protracted rise in the general level of "need for achievement" precedes a protracted period of economic progress, and a protracted period of economic decline or stagnation is foreshadowed by a persistent decline in the need for achievement.

Since the entrepreneur is the main translator of the general national level of achievement motivation into concrete economic performance, McClelland and his associates carefully identified the essential components of entrepreneurial behavior, and then found that each of its components is tied into a high level achievement motivation. In other words, saying that people have a high level achievement need is an alternative way of saying they seek to behave in all the specific ways that add up to an efficient entrepreneurial role. This is the phase of McClelland's work which this Symposium might wish to take account of in its investigations of the essential nature of management in farming.

However, I am not able to move directly into this phase of McClelland's work without first giving some attention to certain terms which he and other authors use, while leaving the reader to figure out their meaning pretty much for himself. For whatever be the psychological variable under consideration, all the writers mentioned sooner or later tend to use the words "motives," "needs," and "belief," interchangeably, and yet to leave the impression that these terms are not identical in meaning. In addition, the word "values" is commonly slipped into the discussion without any specified meaning. I am not sure I can handle these terms in a way that will suit everyone. However, if for no other reason than the need of keeping my thinking on track, I am compelled to come to grips with the meaning of these terms the best I can.

The first three sections of the paper deal with these meanings. The fourth section summarizes the steps taken in measuring the degree to which the "achievement motive" is shared among individuals and groups. The fifth section calls

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3/ Mead, George H., "Mind, Self, and Society." Edited by and with introduction by Charles W. Morris, Univ. of Chicago Press, Chicago, Ill., 1934, pp. 152-163.

attention to certain misleading implications of McClelland's term "need for achievement." The sixth section turns to his analysis of the components of entrepreneurial behavior and the personality traits (motivations) that lead people to behave in an entrepreneurial way. The seventh section offers suggestions as to why and how McClelland's analysis of entrepreneurship and its underlying need for achievement might be considered in investigations of what makes some farmers excellent managers and others not so good. The final section points out that the marked progress of the behavioral sciences in recent years on the problem of motivation gives hope that in the years ahead they can provide much needed information on conflicting beliefs and values that are the heart of serious policy problems.

I. Motive as Need of Prized Personal Qualities

All the motives investigated by Reisman, Whyte, McClelland and others are actually ethical motives. For in each case, what moves the individual (or group) is the need of the "I"--the "ego"--for assurance of prized personal qualities. Eric Fromm said that if commodities could talk, they would say: "I am as you desire me." 4/ This makes them salable, which is their total need. In these terms, the dominant drive of Reisman's "other directed man" is the need for qualities which others desire. His goals are always shifting in response to "the actions and wishes of others." 5/ His central concern is with "becoming salable," being liked. 6/

McClelland's "achievement motive" is no less a need of assurance of prized qualities than is Reisman's desire for "the approving signals of others" is a need--a motive which he calls "other-directedness." They differ merely with respect to the kind of personal qualities that are prized. McClelland's achievement motive is the need for assurance of qualities that add up to an innovator type of personality. These include leadership capacity, high level intelligence, ability to organize materials and men; capacity for evaluating critical situations quickly and accurately, seeing new angles, guiding present decisions by long-range perspective of future possibilities, preferring larger distant rewards to smaller present ones, generating one's own directives, being a self-starter, and being on one's toes and being a courageous risk-taker in the confidence one can turn uncertain situations to good advantage. 7/

II. Motive as Including Concepts of Ways of Demonstrating Prized Personal Qualities

But one cannot become a consumer of needed personal qualities by eating these goods as a hungry hound eats meat. Such needs can be gratified only through a proficient expenditure of one's energies in ways of living and making

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4/ Fromm, Eric, Man for Himself, Reinhart & Co., New York, 1947, p. 73.

5/ Reisman, David, Lonely Crowd, Yale University Press, New Haven, Conn., 1950, p. 22.

6/ Man for Himself, p. 70.

7/ Nowhere does McClelland systematically identify the personal qualities that are involved in what he calls "the need for achievement." The reader has to pick them out from his discussions of related matters. They come out best (1) in his discussion of the experimental techniques for arousing the achievement motive (pp. 39-46); (2) his illustrations of literary materials containing achievement imagery (pp. 41-42, 49, 120-121, 141-142); (3) his discussion of child-rearing practices (pp. 46-47, 340-345, 350-356); (4) his handling of the "profit motive" (pp. 233-237) and religious world views (pp. 145-149, 367).

a living that are interpreted (whether consciously or unconsciously makes no difference) as gilt-edged evidence of prized personal traits, and without which one feels life would be futile and empty of purpose and meaning to himself or others. Thus, the motive or need of Reisman's other directed man includes the concept (interpretation) of proficient conformity with the practices of his peers as valid proof of qualities that others like and therefore which he prizes. Similarly the need of the loyal slave for the master's warmth, protection, and care includes the concept (interpretation) of proficient obedience of the master's wishes as the proper way of proving himself a prized person. Again, the democratic motive or need includes the concept (interpretation) of proficient practices of free elections, speech, assembly, and the like as absolutely necessary proof of the prized spirit of self mastery and aversion to subservience.

By the same token, what McClelland calls "the need for achievement" includes the interpretation (concept) of proficiency in all employments as necessary evidence of the go-getting innovators. Individuals with a high degree of this need seldom get any rest; always are on the move, even in their fantasies, to achieve concrete evidence of their personal value through increasing proficiency in all their employments, economic or otherwise. If they fail to remember their appointments, leave dust in the corners while sweeping the floor, plow crooked rows or leave the pasture gate unlocked, they are unhappy. For they interpret such imperfections as prima facie evidence of personal delinquencies that add up to an irritating image of their personal worth or significance to themselves and others. Without this interpretation of proficiency in all employments as valid evidence of personal value or significance, what McClelland calls the "need for achievement" would fall apart like a rope of sand.

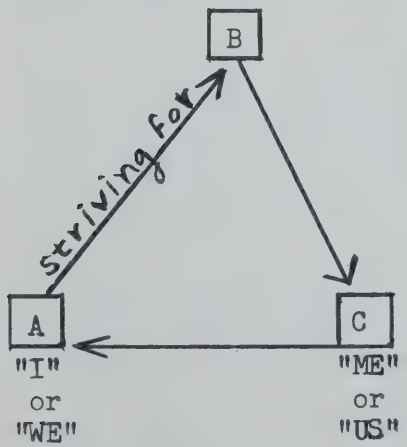
This need or motive has a formal structure which he fails to make explicit. This structure is a reflexive relationship between three components.

A. The striving of the "I"--the "ego"--

B. Prized innovator personality traits ("me") with which the "I" seeks to identify itself.

C. Proficient performance of all employments (activities) which is interpreted as proof that a person possesses the prized personal qualities.

This relationship is illustrated in the following figure.



Proficiency in ways of living and making a living which are interpreted as proof of A's identification with (or possession of) C.

Prized personal qualities without which A feels distressed by a lack of personal worth or significance to himself and others.

The reflexive quality of this relationship is the fact that one's concept or image of prized personal qualities leads him to be as proficient as he can in ways that are interpreted (conceived) as evidence of qualities he needs--the kind of "me" he seeks to be. When in speaking one's own voice, he also speaks with the "voice of all," he doesn't say "I" but "we;" similarly he doesn't say "me" but "us." Thus, either the singular or plural forms of personal address may be involved in any motive.

Any specific type of personal qualities, which one prizes, constitutes a specific "me" which the he seeks to be.[8/] Thus, in McClelland's achievement motive what moves one is his need of proving himself an innovator type of "me" through excellent performance of all employments. Similarly, in Reisman's other directed man, what moves the "I" is the need for proving oneself a likeable, salable "me" through total conformity with the practices of one's peers. The same principle applies to any motive. Different motives involved the same "I" but different "me's"--different sets of prized personality traits. The "I" is thus host of many "me's"--many types of personal qualities.

This means that the B term of the above figure may represent any number of specific ways of living and making a living, and the C term may represent any number of corresponding "me's"--different types of prized personal qualities. Thus, every motive has one and the same formal structure. This structure is a reflexive relationship of three components, (1) the "I", (2) some specific type of prized personality traits, and (3) a way of acting that connects the two--identifies the "I" with a specific "me" it needs and seeks to be.

III. Beliefs and Values

The meaning we attach to beliefs and values derives from the fact that motives include both conceptual and volitional or appetitive components. In line with this fact, the meaning of beliefs may be expressed in two ways. In the first, the definition proceeds from persons to practices. In these terms, beliefs are (1) concepts of the types of personal qualities, (2) with which people feel a need and desire of identifying (or proving) themselves, (3) through proficient expenditure of themselves in ways they interpret as evidence of the prized qualities. In line with this definition, the democratic motive is the belief that men are of equal dignity and worth; hence none are wise or good enough to have arbitrary power over any other; therefore all need ways of life, such as free elections and freedom of speech and assembly, which invests each with the power (right) to be a participant in making the rules which all must observe. Being such a participant in the democratic meaning of freedom--liberation from subservience to the arbitrary power and purpose of anyone and yet be subject to common rules.

In this definition, motivating beliefs proceed from persons to practices, but there is no necessary reason why the definition may not proceed from practices to persons. In these terms, beliefs are concepts of ways of living and making a living which people feel obliged to follow, and this feeling is the need and the desire people have for proving themselves the kind of persons they most prize.

8/For a penetrating analysis of the "I" and "me" components of the self and their interaction, see Mead's Mind, Self, and Society, pp. 173-178; 192-200; 203-204; 209-222; 273-281.

Whichever form of definition is used is a matter of convenience, since both are equivalent in meaning. In either case, the big fact is that while beliefs include concepts, mere concepts are not beliefs. I have a concept of proficiency in scalping and head-hunting as a way of living and making a living. In my case, this concept is not a belief because I feel no need of engaging in such practices in order to prove myself a worthwhile person. For many primitive tribes, however, this concept is a profoundly motivating belief. Similarly, millions of people in master-servant societies have the concept of free elections, speech, and assembly. But for them this concept is not a belief because they feel no need to follow these practices in order to prove themselves worthwhile persons. On the other hand, in our society men have valued these practices more than life itself because of their profound need of proving themselves self-masters, subject to the arbitrary power of no one.

Values are the degrees to which people feel a need (desire) for following practices that are interpreted (or conceived) as evidence of worthwhile life. A concept of a given way of life is a belief only to the extent that a person values this way of life as evidence of the kind of person and society he most prizes. (Beliefs are thus a working union, as it were, between the viscera and the cortex--between the appetitive and conceptual components of motives). It follows that values are the relative weights (degrees of desirability or importance) which people assign to their various beliefs--concepts of ways of living and making a living which they feel obliged to follow for the sake of proving themselves the kind of persons they most prize.2/ This means two things.

First, beliefs and values are as interdependent as the sides of a coin. Neither exists without the other. We cannot stick beliefs in one jug and stuff values in another jug. For there are no beliefs without concepts of practices which are valued in some degree as valid evidence of prized personal qualities. Conversely, without concepts of given ways of life there are no values as there is nothing to value. To try to identify and measure people's values without first identifying their beliefs is futile. There is nothing to measure; no point of reference; no significant hypothesis to guide investigations; nothing to sink one's teeth in.

Second, while beliefs and values are interdependent, they are not identical. For people commonly share the same beliefs and yet have different values because they attach different weights (degrees of desirability) to the same beliefs. For example, farmers have long held the belief that society owes individuals a fair return for their contributions. They have also long held the belief that society is obliged to place no collective restraints on the power--the entrepreneurial freedom--of producers to use available technologies and other resources in whatever way they desire. However, conformity with the second belief results in chronic price-depressing surpluses. Entrepreneurial freedom is thus bought at the expense of fair returns. Farmers may achieve fair returns through supply-management programs which limit total farm output to the amount consumers want at fair prices. But if they do so, they must forego some measure of entrepreneurial freedom or power to use their technologies and other resources in whatever way they desire. Under this circumstance, it is quite apparent that farmers differ appreciably in the degree to which they feel obliged to follow ways which meet the belief in entrepreneurial freedom, on the one hand, and which meet their belief in fair returns on the other. Thus, they have the same beliefs but different values. No solution of the farm surplus problem is possible until farmers

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2/ For an able use of essentially this meaning of beliefs in political theory, see Sebastian de Grazia, The Political Community: A Study of Anomie, University of Chicago Press, Chicago, Ill., 1948, especially pp. 47-71.

are able to alter the relative weights which historically they have assigned to their beliefs in commutative justice and to their belief in entrepreneurial freedom. Until they can do this, they will continue to go on halting between two opinions, not knowing which they really value most.

The terms "truth" and "falsity" do not apply to beliefs. For there is no scientific procedure whereby a knowledgeable and devoted democrat, such as a Lincoln, can prove to a knowledgeable and devoted aristocrat, such as an Aristotle or a Calhoun, that his democratic (equalitarian) beliefs are true, and that their aristocratic (inequalitarian) beliefs are false. The same principle applies to any other system of beliefs. Thus, it is not by science, but by something akin to religious faith that one accepts or rejects given beliefs. This would not be the case if beliefs included only the conceptual components of given motives. It is the fact that beliefs also include the appetitive or volitional component of given motives which condemns them to the status of unprovable presuppositions. As nearly as we can make out from the literature:

1. The term "value judgment" is intended to mean the sense of commitment to ways that are interpreted (conceived) as proofs of given types of prized personal qualities.

2. This sense of commitment is inseparable from values and vice versa, although the two are not identical.

3. The terms "truth" or "falsity" do not apply to this sense of commitment.

But the expression "value judgment" does not make these facts explicit; besides, our experience is that the term is a word-block to communication which no amount of "explaining" can remove. For these reasons, we prefer the expression "belief and value presuppositions."

It is instructive to observe that there is no belief which is not an instance of what is commonly called "cultural relativism." The aspiration for personal worth or significance is universal; at least we know of no evidence to the contrary. This aspiration is the need and drive of men the world over (a) for being proficient in ways of living and making a living that are interpreted as evidence of prized personal qualities and (b) for avoiding ways that are interpreted as evidence of distasteful qualities.

This striving for personal significance or worth enters into virtually all one (individual or group) does, influencing the kind of dress he wears, the car he buys, the house and home he seeks; the career, friends, and associates he chooses; the way he works and plays, cuts his hair or eats his dinner and bears his troubles; and the stand he takes on vital issues. Virtually everything one does he does with a view to enhancing the significance of his person and above all avoiding damage to the treasured image that he has of himself in his own eyes and the eyes of others. There is seemingly no interest, however particular (say flowers for the girl friend) or however general (say what should be done about the national debt) which is not impregnated by the striving for proficiency in ways that are interpreted as evidence of personal qualities that merit the warmth of oneself and his human world.

While this aspiration for personal significance is shared by men the world over, people of different cultures differ as night from day with respect to

specific beliefs concerning (1) what types of personalities they feel are most worthwhile, and (2) of what ways of living and making a living are needed proofs of worthwhile persons. This means that no specific motives or beliefs which people may use in guiding their quest for worthwhile life is worldwide. For example, the "democratic motive" is not a universal datum of human nature; neither is the "profit motive" considered as a seeking of ways to earn more and more and more money, irrespective of the extent to which one's earnings may exceed the requirements of customary levels of living.

Oversight of this cultural relativity of any specific belief and value motivation often leads to naive approaches to international problems. For example, Kennan has ably pointed out that at least until very recent years American people have tended to project into the plain people (as distinct from the "rulers") of other nations their own aspirations for democratic institutions and for living safely within territorial boundaries.10/ This projection makes it seem self-evident that when "people" of other lands do not behave this way, the reason is that they are prevented from doing so by aggressive rulers who use them as pawns in their international schemes of power politics. Therefore, the proper approach for America to take to foreign problems is (1) to refuse to become a party to any secret treaties or power alliances and (2) in all international conferences, insist that the rulers of other nations join us in formal pledges to observe each other's sovereignty and territorial integrity. Thereupon, the "moral force" of world opinion will hold world rulers to these pledges. For no "aggressor" can openly thwart international commitments to world law and justice which are backed up by the plain people of all nations. The Open Door Policy is one among many examples of this naive approach to problems of international power balances.11/

Failure after failure of this approach has pretty well undermined the deep-seated 19th century American faith that the democratic motive is a universal datum of human nature. But a similar faith in the universality of the "profit motive" still walks on strong legs. For it is widely held that men "by nature" the world over have our motivation to be ever on the move from lower to higher income-producing practices. The fact that static societies are making little headway in doing so is then explained by their lack of sufficient technical knowledge and capital resources. Therefore, the proper approach of America to the "poor nations" is to extend them abundant grants or loans of capital and services of trained personnel. Once they have been helped to help themselves, they will forthwith start climbing from lower to higher income-producing ways of life, just as we would do if we were in their place and they in ours. Thus, late 20th century America follows the same naive approach to the critical international problem of economic development that early 19th century America followed with respect to the critical international problem of big power alliances.

But this approach overlooks the fact that economically static cultures are characterized by master-servant types of institutions. Two cornerstones of these institutions are the beliefs (1) that exemption from economic work is prima facie evidence of superior character, and (2) that dependence on such work is gilt-edged proof of such a lack in intelligence, initiative and capacities for self direction as to constitute a nature-made dependence on superiors for their directives in all spheres of life. Under the guidance of these beliefs "a man does not 'by nature' wish to earn more and more money but simply to live as he

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10/ Kennan, George F. American Diplomacy 1900-1950. The American Library of World Literature, Inc., 501 Madison Ave., New York 22, N.Y., 1951, pp. 93-95.

11/ Ibid., pp. 41-56.

is accustomed to living and earn as much as is necessary for that purpose."12/

Thus, the "profit motive" is pretty much restricted to economically progressive societies. And such societies, by and large, are characterized by the belief that most worthwhile persons are strivers for excellence in all employments, whether writing songs or making mousetraps. In American society, such strivers are especially prized, not only as excellent providers of mankind's victuals, but as substantial pillars of the community, thinkers of bigger thoughts, dreamers of vaster dreams, wiser judges of right policy and safer keepers of the public conscience than other breeds of men, owing to their closer touch with the eternal verities. In glancing at the heroes of our folklore, it is astonishing to see how frequently the brightest stars are those who have found new ways of turning into fortunes such lowly matters as making chewing tobacco or butchering hogs, and then turned the fortunes into endowments of great universities, hospitals, churches, and other fetes of philanthropy.

In two important respects, high level commitment to identifying themselves as superior doers by excelling in any employment of their choice sharply differentiates innovator personalities from the nonconformist, on the one hand, and the conformist on the other. First, persons with this motivation combine into a constructive balance the chaos-generating individualism of the total nonconformist and the equally destructive passion of the total conformist for perfect "togetherness". Second, the life-objectives of innovator personalities call for a substantially greater risk and uncertainty than do the objectives of the nonconformist and conformist. Both of these points deserve further attention.

Like the nonconformist, persons with high level commitment to proving themselves superior doers place a high premium on their individualistic views of what to think or do in given situations. The aversion of the innovator personality to surrendering his individuality to group pressures is thus no less powerful than that of the beatnik. But unlike the beatnik, his premium on individuality does not drive him to be different simply for the sake of being different. For, his central concern is with being distinctive in ways that count most. And the kind of individuality that counts is proved abilities to excel as a generator of new forms of thought and practice which one's group (or groups) come to recognize, want, and accept as superior to its own customary ways of thinking and doing. When measured against this yardstick, one's unique inclinations and potentialities do not all stand on the same footing. Some are handicaps. Others are harmless but add nothing to one's power to make his mark--stamp his image on his world, at least in some degree. Moved by this objective, the innovator type of "I" faces up to the fact that many of one's individualistic qualities don't count. Thus, he feels obliged to take command over the swarming totality of his motivations, saying yes to some, and nurture them as a gardener does his flowers, but saying no to others and clear them out as a forester does the underbrush.

But what is the psychological mechanism by which the innovator type of personality reaches decisions on which of his individualistic motivations are worth his time, and then discipline himself to say no to the ones which aren't and yes to the ones that are? The answer is a high level sensitivity to the views and practices of one's group (or groups) as well as to his own unique views and

12/ Weber, Max. The Protestant Ethic and the Spirit of Capitalism. Translated by Talcot Parsons, Butler and Tanner Ltd., Fromer and London, 1930, pp. 59-60.

sentiments. This sensitivity includes a high level capacity for (1) taking into oneself the thinking and feeling of one's group (or groups) concerning what is true or false, good or bad, right or wrong on specific issues, and then (2) using these organized attitudes of his community as a guiding check in making his own decisions as to what is most sensible. Only in this way can one ever develop his own ideas to the point where his group (or groups) recognizes and wants them as superior to their own.

For example, to prove oneself a prized doer in research science, one must first take into himself the organized knowledge and attitudes of his professional community concerning warrantable generalizations in any given subject matter, such as physics or chemistry. Then he must continually use this internalized mind of his community as a check on whether he has actually run across observations which cannot possibly be explained as instances of prevailing laws. Even this is not enough. He must put his own individualistic thinking (hypothesis) to the severe test of whether it can account for all observations accounted for by the old law and also account for his own exceptional observations.13/ Only through checking his own thinking and observations from the standpoint of the thinking and observations of his professional group can a researcher in any measure make society over into his own image, and in this way prove himself the innovator type of personality he most prizes and seeks to be.

The same principle applies to any social (group) activity. For example, it is a worthless first baseman who permits his "need for being liked" to cause him to surrender his own individualistic ideas as to what constitutes a superior first baseman. But he is also a worthless player unless he gets inside his own cortex the organized moves of the whole team with reference to any specific play and then continually uses this "organized other" as a check on whether or not his own exceptional ideas are actually superior to those of his teammates and coaches.

Mead was the first to point out that an essential component of the self is the "internalized" ways of thought and practice of one's group (or groups). He called this component of the self the "generalized other" or the "organized me."14/ This "me" component of the total self "represents the organized responses" of one's community, and constitutes a set of social claims or demands which the "I" feels obliged to take account of before finally deciding what one's own reaction will be. In this interaction, the "I" feels no mechanical necessity for making the responses that his group demands and which are represented by the "me" component of the self. But the "I" does feel a moral necessity--a sense of obligation--to at least take account of his actions from the standpoint of the claims of his group (or groups) as well as from the standpoint of one's own individualistic interests.15/ Mead referred to his interaction of the "I" and "organized me" as the "I" taking the role of the "organized other." In this way, one uses the attitudes and ideas of his group in deciding on whether he will fully conform with its practices, or like a chronically rebellious beatnik, reject them, or whether he will seek to work out more acceptable ways from the standpoint of himself and others alike.

Nowadays, the term "other-directedness" is used to denote the sensitivity of the "I" to the sentiments and views of his community, as reflected in mass media, and which are represented by the "me" component of the self. The

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13/ Mead, George, Movements of Thought in the Nineteenth Century, Univ. of Chicago Press, Chicago, Ill., 1936, pp. 264; 281-286; 405-413.
14/ "Mind, Self, and Society," pp. 152-164. Also see pages cited in footnote 7.
15/ "Mind, Self, and Society," pp. 167-168; 175-175; 178; 385-389.

predominantly nonconformist type of personality is one in whom the other-directedness factor is virtually zero, as he tends to revolt against all social claims. In contrast, the predominantly conformist personality is one in whom the other-directedness factor is so excessive that he tends to surrender all his individuality to group pressures for "togetherness."

These predominantly nonconformist and conformist personalities have great vogue in current literature, both technical and popular. However, despite much discussion to the contrary, neither type is characteristic of American people, by and large. As McClelland observed, American people are the most other-directed people in the world, and they are also the most individualistically directed people in the world.[16/] This is not just a saying; it is backed by much empirical evidence. To illustrate, consider two samples of evidence; one pertains to American and German high school boys, and the other to American businessmen.

German and American boys were asked to list any activities outside school in which they were engaged (school paper, etc.). On the average, American boys listed five group activities. The German boys averaged only two, but they listed more individualistic activities such as walking, collecting stamps, playing music. The questionnaire also asked them the "three things you would most like to teach your children." The replies of the German boys stressed other-centered virtues; obligations to others, to friendship, honesty, loyalty. In contrast, the American boys stressed self-centered virtues: obligations to oneself for developing one's capacities for intelligence, music appreciation, enjoying life, and the like. Thus, the studies showed that:

> ...While the German engages in more individualistic activities, he has a greater sense of obligation to others, whereas the American has a greater sense of obligation to himself which is held in check by participation in many group activities. 17/

Our culture is thus one in which stress on the drive for being different--doing what "I" please--is checked and disciplined by learning to heed the opinions of others through participation in group activities. In German culture, this process tends to be reversed. Society or institutions are the primary focus. The person is envisioned primarily as part of a social organism who asserts his individuality in solitary activities. In our case, the viewpoint runs from the individual to society. In the German case, the viewpoint runs from society to the individual. This difference in viewpoint shows up in the opposite ways which German and American psychologists use to induce frustration in their subjects:

> The Germans typically do it by...literally demanding too much of the individual whereas the Americans do it by blocking or interfering with something the individual is trying to do. In other words, the Germans start from the viewpoint of society and see frustration as demanding too much of a person, leaving him in the most general sense too little individuality. The Americans, on the other hand, start from the viewpoint of the individual and see frustration as anything which

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16/ The Achieving Society, p. 197.
17/ The Achieving Society, p. 198. (Italics not in original).

> interferes with his wishes, making the ultimate problem here not individuality but "socialization," or fulfillment of one's social obligations. 18/

The American businessman, as well as the American boy, is the most "other-directed" person in the world, and also the most individualistically directed. On the one hand, he wants freedom to initiate activities but he also wants to check and guide his initiative by what is necessary for the welfare of his organization. Thus he says:

> ...in one breath that he starts activities of his group and the next that he is willing to sacrifice individual decision-making to the group...On the one hand he wants initiative but on the other he is guided by the welfare of his organization and is quite willing to sacrifice his autonomy to do it. 19/

In a highly market oriented economy, this is precisely the kind of behavior that is required of a superior entrepreneur. To prove himself a prized innovator, he must make sensitive use of the sentiments and views of his market society as a guiding test in working out his own unique ideas to a point where his society wants his goods and services in preference to those of others. The same principle applies to the inter-personal relations within his own firm.

This completes our sketch of the first point--the fact that high level commitment to identifying oneself with prized innovator qualities combines into a constructive balance the chaos-generating passion of the nonconformist for being different just for the sake of being different and the equally destructive passion of the conformist for "togetherness". Attention is now directed to the second point--the fact that the need for excelling as constructive doers can be met only through ways of living and making a living that are shot through with a relatively high degree of risk and uncertainty. Here we give theoretical reasons why this is so. A later section goes into experimental evidence.

Compare first the nonconformist and the innovator personalities. For comparison purposes, suppose the would-be total nonconformist is completely successful. Then from the cradle to the grave he can truly say: "I have always been myself; never have I allowed a single inclination to be myself to be overridden by any social pressure, not even the pressure of closest friends or family." In this singular achievement, he is an excellent defense general. He never retreats. But he is no good on offense. To attack--that's a risk he never takes. He plays only the short odds. So he merely fights a draw. He can boast: "I fought them off; the world has failed in its every attempt to make me over into its image." But with equal truth his world can boast: "In no single respect did the nonconformist make us over into his image."

Not so with the innovator. He too can boast of always preventing society from making him over into its image. But he finds no challenge in this relatively minor prize. He not only asserts power to be different, but to be different in a way that makes society over into his ways, at least in some respects. Thus he plays for higher stakes. And even the only moderately successful innovator always wins at least a little more than the most successful

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18/ "The Achieving Society," p. 200.
19/ "The Achieving Society," p. 284.

nonconformist. For, there is hardly an implement of modern life, a piece of art, or a law of science which does not run back to where once it had no other home than the strange idea of some innovator personality--a constructive dissenter who checked and disciplined his exceptional sentiments and views by placing himself in the mind and feeling of his peers until he succeeded in developing his own views to a point where his world eventually accepted them as superior to their own. The whole paraphernalia of social life, by and large, is thus a collection of memorials to innovating personalities who placed their bets on their capacities to make the world over into their own image. The McCormack reaper, the Singer sewing machine, the Newtonian world machine, the Darwinian theory, Mendel's law, the Babcock cream tester, the Oliver plow--the list is endless.

Compare next the stakes played for by the perfect-adjustment seeking conformist with those of the innovating personality. Assume the conformist is completely successful. Then he can boast: "Never have I permitted myself to be separated an eyelash from perfect togetherness with my fellows. Always I have conquered the pressure of every individualistic inclination that strove to defeat my winning the grand prize--a life unlittered by discord with humankind." This is a singular achievement.

Nonetheless, like the total nonconformist, he plays only the short odds. He never bets on his ability to make his world over in his own image in any degree. For this reason, he doesn't win much. Even in his victories, his unrealized potentialities rise to mock him.

Like "withered leaves", they remind him:

We are a watchword;
You should have used us!
Life, by your sloth,
Has been refused us.
By worms we're eaten
All up and down;
No fruit will have us
For spreading crown.

Like "a sighing in the air", they say:

We are songs;
You should have sung us!
In the depth of your heart
Despair has wrung us!
We lay and waited;
You called us not.
May your throat and voice
With poison rot.

Like "broken straws" they tell him:

We are deeds
You left undone;
Strangled by doubt,
Spoiled ere begun.
At the Judgment Day
We shall be there
To tell our tale;
How will you fare? 20/

The potentialities of the innovator personality do not talk back to him like this. For he plays for much higher stakes. He places his bets on winning for himself both (1) the "belongingness," which is the sumum bonum of the togetherness-seeking conformist, and (2) the warm-hearted acceptance of himself as a distinctive individual, which is the sumum bonum of the nonconformist. And he does pretty well on both bets. For example, by taking over into his own personality the systematic thought of his professional world and using its thinking as a check on the validity of his own divergent line of reasoning, Einstein at an early age was able to develop his highly individualistic views to a point where his professional world soon wanted them more than it did its own. No sooner was the ink dry on his new equations, then professors all over the world began competing with each other as to who could first clear his head of Newtonian concepts and refill it with Einsteinian concepts. In this way, Einstein made his world over in his own highly individualistic image. And they loved him for his doing so. Not only did they love him as a man who proved himself big enough to oust Newtonian physics with his own relativity system, but they also loved him as a man who wore his hair clear down to his shoulders. Had he failed as a research innovator and still worn his hair this way, his world would have considered him only a run-of-the mill beatnik. But by proving himself man enough to generate new scientific views which his peers wanted for themselves, Einstein was able to "buy" acceptance of even his odd characteristics.

The same principle applies generally. Go to the art galleries where hang the portraits of distinguished personalities. Then go across the street to any of the "coffee and confusion" clubs. It is very difficult to tell one from the other on the basis of number of strange peculiarities per person. But the beatnik is lonely. For, in seeking to be different just for the sake of being different, he rejects the social discipline that is involved in being an innovator type of individual. So, the more he struggles to be himself, the more he is unable to "buy" acceptance of his odd-ball qualities.

The same principle holds in the economic and professional spheres alike, except that in the economic sphere, those with high level need for proving themselves superior doers commonly achieve quick acceptance of their innovations but not of their person. For example, society may prize a new brand of chewing tobacco so highly that it returns its developer a fortune and yet place a relatively low premium on him as a person. By and large, however, this is no handicap to the successful economic innovator. For by turning his fortune from butter-and-egg achievements into endowments of public service foundations, he commonly wins a high place for himself in the affections of his present and future generations as a beloved philanthropist; so much so that they often chuckle

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20/ Eleven Plays of Henry Ibsen, the Modern Library, Random House, Inc., Peer Gynt, Act V, Scene VI.

over his screwball individual behaviors, even when these are more outlandish than those of the queerest beatniks.

Not infrequently, persons are faced with violent rejection, including execution, by their present society. These occasions bring into clear light the fact that individuals with a high level need for proving themselves superior builders of new and better ways have an unusual capacity for tackling risk and uncertainty conditions. Neither the completely nonconformist nor the completely conformist type of personality can see any chance of winning out over a society that is sending them to the gas chamber. Faced with such rejection, all bets are off. The jig's up. Not so for those with a strong need of identifying themselves as unique craftsmen of better ways of life. For, even when totally rejected, they commonly have the ability to not only bet that in the end they will win acceptance, but also the ability to feel they are not taking any risk at all in playing for this prize. They achieve this confidence through their capacity to guide their present behavior by a long range identification of themselves with a future society that prizes them because they refuse to submit to the ways of their present society. In this way, they are often able to face total extinction by their present society with equanimity. For example, consider Condorcet, the great French mathematician, educator, and revolutionist, who lived constantly in fear of the death which finally overtook him. Totally rejected, he went to his execution fully confident of his acceptance by an affectionate posterity. Listen to the courage-giving power of his identification of himself as a prized doer in his future perspective of the race:

> ...there is no limit to the perfecting of the powers of man...progress can proceed at a pace more or less rapid, but it will never go backward...What a picture of the human race, freed from its chains, removed from the empire of chance...advancing with a firm and sure step on the pathway of truth, of virtue, and of happiness, is presented to the philosopher to console him for the errors, the crimes, and the injustices with which the earth is still soiled and of which he is often the victim! It is in contemplating this vision that he receives the reward of his efforts for the progress of reason, for the defense of liberty. He dares then to link them to the eternal chain of human destiny; it is there that he finds the true recompense of virtue, the pleasure of having created a lasting good, which fate cannot destroy...This contemplation is for him an asylum whither the memory of his persecutors cannot pursue him; where, living in the thought with man established in his rights as in the dignity of his nature, he forgets him whom avarice, fear, or envy torment and corrupt it; it is there that he truly exists with his fellows, in a paradise which his reason has created, and which his love for humanity enriches with the purest of joys. 21/

Yet the fact remains that from any scientific standpoint, Condorcet's confidence that any future society would ever accept him rested on nothing more substantial than sheer sentimental moonshine. This is precisely the situation of any would-be innovator at the moment of critical decision. Thus, for persons with high level commitment for proving possession of innovator personality traits, risk

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21/ Progres de l'Esprit Humain E'poques, I, X.

and uncertainty in the profoundest sense of the word are the very law of their being.

Their sense of commitment to increasing excellence in any employment of one's choice as the badge of superior ability and character, I have called the central belief of the American work ethic. I am unable to detect any difference between the kind of behavior induced by this belief and the kind induced by what McClelland calls "the need for achievement." He refers to this need as "the American achievement ethic." 22/ My conclusion is that any difference between us here is one of mere words and not substantive meaning.

IV. Measuring the Need for Excelling in All Activities as the Badge of Prized Personality

But by whatever name the motive is called, McClelland has accomplished outstanding progress in obtaining numbers to represent differences among individuals and cultural groups in the strength of the need for identifying themselves as prized doers through excelling in all their activities.

Such numbers are developed through use of data obtained from fantasy behavior. This type of behavior has three advantages over overt behavior as a sensitive reflector of the effects of any aroused motive. First, anything is possible in fantasy. In overt behavior, a man is subject to many restraints, including his limited abilities for actual performance. But in his fantasies he is quite capable of rising to great heights, sinking to lowest depths, killing his grandmother, or taking off to Mars on a flying horse. Second, the experimenter can manipulate fantasy behavior more easily than he can overt behavior. For example, it is difficult to influence how hard a person works. Seemingly most people develop a problem solving "set" which keeps them working at a more or less constant rate despite wide variation in feelings, such as those induced by extreme fatigue. As we shall see, the same is not true of fantasy behavior. Third, fantasy provides a better clue as to what motive is aroused than does overt behavior; i.e., from the mere fact that a person is working hard, it is impossible to deduce what motive is leading him to do so. It may be his need for social approval, the mere desire to do his job well, or the desire to get a boring task over with so he can shift to something else. In contrast, by tapping his fantasies, the scientist spotlights the worker's real "inner concerns" at the time he is working.

For these reasons, the imagery content of fantasy behavior is exploited as means of measuring the strength of given motives. Five major steps have been taken in measuring the "achievement motive." These are substantially as follows:

Step 1: This motive was aroused through tests in which the experimenter gave instructions which stressed that the individual was about to be evaluated with respect to such personal qualities as intelligence, leadership capacity, administrative ability, capacity to organize men and materials, ability to size up tough situations quickly and accurately--qualities which are highly prized in our American culture. Thus the test rested on the assumption that the instructions would stir up the desire of the subjects to do well so as to prove they had a potential for getting up in the world.

Step 2: As quickly as the tests were over, samples were taken of the subjects' fantasies. This was accomplished by having them write brief stories of

22/ The Achieving Society, p. 359.

whatever was suggested to them by pictures flashed on a screen. The assumption of this step was that the stories represented what runs through people's minds when they are in a state of heightened motivation to do their best.

Step 3: The next step was to compare the stories written by subjects in whom the experimenter had aroused the achievement need, with stories written by them under normal conditions, where the scientist had not tinkered with their motives--their "inner concerns."

Certain differences stood out, as illustrated by a couple of stories which were evoked by the picture of a boy sitting at a desk with a book in front of him. Under normal conditions, the picture evoked the following type of story:

> A boy in a classroom who is daydreaming about something. He is recalling a previously experienced incident that struck his mind to be more appealing than his classroom. He is thinking about the experience and is now imagining himself in the situation. He hopes to be there. He will probably get called on by the instructor to recite and will be embarrassed. 23/

Here there is no sign of stretching oneself to excellent performance. But look at the next story, typical of those written by other people after they have been put on their toes by the kind of tests described above:

> The boy is taking an hour written test. He and the others are high school students. The test is two-thirds over and he is doing his best to think it through. He was supposed to study for the test and did so. He knows he has studied the answers. He can't remember and is trying to summon up the images and related ideas to remind him of them. He may remember one or two, but he will miss most of the items he can't remember. He will try hard until five minutes is left, then give up, go back over his paper, and be disgusted for reading but not learning the answers. 24/

This story is loaded with achievement imagery. Here the writer imagines the boy straining every nerve to pass an examination. "He is doing his best to think it through." He is "disgusted for reading but not learning the answers," and identifies himself as the cause of his not doing well. "He saw but did not learn." Then he redoubles his effort to resolve his problem by "trying to summon up images and related ideas to remind him of them."

Step 4: The foregoing experimental procedure pointed the way for obtaining numbers to represent the relative strength of the achievement need under normal conditions. For, as illustrated in the above stories, the experiments demonstrated that people's fantasy behavior runs to achievement imagery when put under pressure by carefully designed laboratory conditions. On the basis of this fact, it appears reasonable to assume that the strength of the need to prove superior abilities varies among individuals in proportion to the number of achievement images in their fantasy behavior as reflected in the stories they write under normal conditions.

23/ The Achieving Society, p. 41.
24/ The Achieving Society, p. 41.

The number reached by this count is called n Achievement, a shorthand for "need for achievement." There are two technical reasons for this terminology. It meets the need for a special term (1) which "points unmistakably to the fact that the measure was derived in a particular way," and (2) which also has "an operational meaning quite distinct from estimates one might arrive at by inferring the strength of a person's achievement motive from his actual successful achievement, or from his frequent assertions that he is interested in getting ahead in the world." 25/

Practical value: Individual achievement scores provide much useful knowledge concerning differences in the behavior of people with high and low scores. For example, numerous research projects have shown that people with high scores come more often from the middle class than from the upper or lower classes. They have better memory for incompleted tasks and are more active in college and communities. They choose experts over friends as working partners. They are more conservative in games of chance, but more daring in games of skill than persons with low n Achievement. They also tend to more greatly overestimate their abilities to overcome difficulties. They are more resistant to social pressures. And they cannot give accurate reports of their "inner concerns" with getting ahead in the world.26/

Step 5: As numbers for the level of individual "need for achievement" may be obtained by counting the images from samples of one's stories, so likewise the level of the same need of any cultural group, present or past, may be obtained by counting achievement images from representative samples of their imaginative products such as folk tales, children's stories, stories of man and his gods, funeral celebrations, dissertations on farm and estate management, poetry, epigrams, war speeches, art forms, and the like.

By measuring change in the level of achievement motivation among present and past societies and relating it to economic change, McClelland and his associates established a causal dependence of economic development upon change in the level of achievement motivation. This phase of his research is not germane to the purpose of this paper. What is germane is his breakdown of entrepreneurial behavior into essential components and then showing experimentally that a high level achievement motivation leads to efficient performance of each component phase of entrepreneurship.

V. Misleading Implications of McClelland's Terminology

However, before turning to this matter, attention is directed to certain misleading implications of the term "need for achievement" (or n Achievement) as applied to individuals, on the one hand, and to societies on the other. In respect to the individual, this terminology implies that the striving or need to achieve "standards of excellence" is the property of no motive except the one which McClelland chooses to call "the need for achievement." This is a mistake. There is no one and only one "need for achievement" any more than there is one and only one truth.

Every motive (of the kind discussed by Reisman, Whyte, and others) is equally a "need for achievement," and has its own unique "standard of excellence." For any specific motive is a need for achieving assurance of a given kind of prized personal qualities through excellent performance of specific behavior that is interpreted (conceived) as proof of prized personality traits. This process of

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25/ The Achieving Society, p. 43.
26/ The Achieving Society, pp. 43-44.

identifying oneself with specific personal qualities one prizes is commonly called "proving oneself." The phrases "need of proving oneself" and the "need for achievement" are identical in meaning. Any motive thus involves its own unique "standard of excellence." This standard is the degree of proficiency (excellence) with which one performs the specific line of behavior that is interpreted as evidence of the specific personality traits he most prizes.

For example, compare persons whose dominant need is what Reisman calls "other direction," with persons whose prime need is what McClelland calls "the achievement motive." It is quickly apparent that the one is as much a striving for achievement as the other, and that the two cases differ only with respect to what is considered most worth achieving. In the case of Reisman's other-directed personality, what is most worth achieving is proof that one is the kind of person that is most prized by his peers. What is least worthwhile are individualistic sentiments and views whenever the price of acting in line with these is some sacrifice of the "togetherness" in which "there is no restless wondering but rather the deep emotional security that comes from total integration with the group." 27/

Guided by this motive (need), the competent teacher, for example, strives for exceedingly high "standards of excellence," but the yardstick of achievement is proficiency in conveying "to children that what matters is not their industry or learning as such, but their adjustment in the group, their cooperation, their (carefully stylized and limited) initiative and leadership." 28/ Her (or his) own deepest need is "the general cooperation of all the children." For without this "cooperation" she has no assurance--no proof--that "she is doing her job...bad behavior on the children's part implies poor management on her part." 29/

Similarly, Whyte's "organization man" strives to achieve excellence no less ardently than did the early Christians, but his standard of excellence is one of purifying individuals of all resistance to smooth operating group concensus. Motivated by this unique "need for achievement," men have proved themselves exceedingly proficient developers of new techniques for inducing in others their own deep-seated need for "togetherness." Their achievements include personality tests, tests of conformity, non-directive counseling, depth interviews, group dynamics, and the like. 30/ An astonishingly effective cure for "The Aggressor" is the one recommended by a Bureau of Naval Personnel Handbook on "Conference Sense."

> Place Donald Duck at the left (the blind spot). Fail to hear his objections, or if you do, misunderstand them. If possible, recognize a legitimate objection and side with him. Object is to get him to feel that he "belongs." If he still persists in running wild, let group do what they are probably by now quite hot to do, i.e., cut the lug down. They generally do so by asking Little Brother Terrible to clarify his position, then to clarify his clarification, etc., until our lad is so hot and bothered that he has worked himself into the role of the conference comedian. Then soothe his bruised ego and restore

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27/ Whyte, "Organization Man," p. 22.
28/ Reisman, "Lonely Crowd," p. 62.
29/ Op. cit., p. 63.
30/ The Organization Man, pp. 171-240.

> him to human society by asking him questions that he can answer out of special experience. 31/

In this way, individuality is kissed to death with cooperation rather than destroyed by assault and battery.

The point is that McClelland does not measure the "need for achievement" as such. What he actually measures is the degree to which individuals or groups share the unique need (motive) for proving themselves go-getting innovators. Saying persons have a high level of this need is an alternative way of saying they place a high premium on their own unique sentiments and views concerning best ways of doing things. Like McCormack working for years in his Dad's barn on his idea for a mechanical reaper when his peers thought him a screwball, such persons stoutly resist group pressures for togetherness when the price of conformity is surrender of their own insight into what might prove to be more productive and desirable ways of living and making a living. Their need for making society over into their own image is more demanding than their need for molding themselves into society's image of what people are most worthwhile. Either of these needs for specific types of prized personal qualities is as much an "achievement motive" as the other. McClelland's n Achievement scores sweep this important fact under the rug. For this terminology implies that there is no "need for achievement" except the single, solitary motivation for proving oneself an innovator type of personality.

The same principle applies to McClelland's group or national achievement scores. Consider, for example, his measurement of "n Achievement" at different periods among the ancient Greeks. These measurements were made through coding and counting the "achievement" images in representative samples of various types of literary products. These products included stories of man and his gods, dissertations, farm and estate management, public funeral celebrations, poetry (excluding victory odes, epigrams) and war speeches of encouragements. Samples of these materials were drawn for the periods of growth, climax, and decline of Greek civilization. 32/ The periods were approximately as follows:

Growth -- 900 B.C. to 475 B.C.
Climax -- 475 B.C. to 352 B.C.
Decline-- 362 B.C. to 100 B.C.

Square miles of trading area were used as the measure of the level of economic activity in each of these periods. From the remains of jars in which Athenian Greeks shipped their surplus oil and wine, archeologists have constructed rough maps of the area within which they traded during the 6th, 5th, and 4th centuries B.C. and which correspond closely enough to the cited periods of growth, climax, and decline. Numbers obtained for the psychological and economic variables were as follows. 33/

31/ The Organization Man, p. 54.

32/ For an excellent summary of these samples by type of literature, author, city, state, date, and length of sample in ten-word lines, see McClelland, "The Achieving Society," p. 111, table 4.1.

33/ "The Achieving Society," table 4.2, p. 119. This table gives scores for each type of literary material sampled.

Period of:	Average number of n Achievement images per 100 lines of all types of literary samples	Number of square miles of trading area
	Number	Millions
Growth (900 B.C. to 475 B.C.)	4.74	1.2
Climax (475 B.C. to 362 B.C.)	2.71	3.4
Decline (362 B.C. to 100 B.C.)	1.35	1.9

The quantitative evidence is clear cut. It shows that from about 700 B.C. to about 400 B.C. the average strength motivation which McClelland calls "the need for achievement" declined by over 30 percent, and that this decline foreshadowed a pronounced drop in the level of economic activity during the next century.

But do the figures mean, as McClelland's terminology means, that the felt need of the Greeks for proving themselves a superior people was 30 percent weaker around 400 B.C. than it was 3 centuries earlier? Or do they simply mean that in the 6th century B.C. the Greeks placed a relatively high premium on economic achievers, whereas by the third century they had grown wiser, at least in their own eyes, and felt that noneconomic types of achievement were far more deserving of the time and effort of sensible men?

The answer is yes, according to all the information that has thus far come to my attention. Consider first the materials which McClelland used to illustrate "the achievement themes" of literary samples used in his study. The passages he offers are from Hesiod, Xenophon, and Aristotle on farm and real estate management. Hesiod is a representative of the economic growth period, Xenophon of the climax period, and Aristotle is a representative of the decline period.

Hesiod placed a very high premium on people who strive to prove themselves superior doers in economic employments. He says for example: 34/

> For when he that has no business looks on him that is rich, he hastens to plow and to plant and to array his house: and neighbor vies with neighbor hastening to be rich: good is this strife for man. So potter contends with potter: hewer of wood with hewer of wood: the beggar jealous of the beggar, the minstrel jealous of the minstrel.

In contrast, the climax period (475-362 B.C.) is one of skepticism concerning the wisdom of life-long striving to make two blades of grass grow where only one had grown before. For example, in reporting a dialogue of Socrates, Xenophon writes:

> And so hard rule these materialistic passions over every man who falls into their clutches, that so long as they see that he is strong and capable of working, they force him

34/ Quoted in The Achieving Society, p. 120.

> to pay over all the profits of this toil, and spend on his desires.

There is some economic achievement imagery here, but much less than in Hesiod. The emphasis is on whether or not it is a waste of life to burn up one's energies in striving to make the farm earn more and more after it is sufficiently productive to support one's customary wants. In Plato's dialogues, Socrates time and again raises the question as to whether striving for economic excellence is not a relatively worthless way of living and making a living as compared with other ways of life.

By the time we reach Aristotle, in the period of economic decline (384-322), the question has been resolved. In his treatment of farm management there is no economic achievement imagery at all; nothing about potter contending with potter or the hewer of wood with the hewer of wood. The core of prudent farm and estate management is a concern with doing what is proper, natural and suitable to man. The able farm manager must be careful so that those working for him will also be careful. He should not give wine to his employees as it makes them insolent, and he should not mistreat his wife as she is a part of the household also. In discussing slaves of the estate, he says:

> Three things make up the life of a slave, work, punishment, and food. To give them food but no punishment and no work makes them insolent, and that they should have work and punishment but no food is tyrannical and destroys their efficiency. It remains therefore to give them work and sufficient food: for it is impossible to rule over slaves without offering rewards, and a slave's reward is his food.

But does all this mean that in the Age of Socrates and Aristotle, the need for Greek people for Achievement had about fizzled out? Not at all. It merely means that from approximately 500 B.C. to 300 B.C., Greek genius and character, with a thoroughness and devotion that astounds imagination, worked out a system of deeply motivating belief and value convictions according to which (1) proficiency in noneconomic employments, such as intellectual and artistic pursuits, was prima facie evidence of most prized personal qualities and (2) that concern with economic employments over and beyond the requirements of customary material levels of living is unquestioned proof of inferior character. 35/

In keeping with these deeply motivating belief and value presuppositions, it is quite true that Aristotle's treatise on farm and estate management reflects no imagery of a man who feels life would not be worthwhile unless continually he proved himself an innovator of higher income producing farm practices. But if we turn to his treatise on noneconomic matters, his imagery is that of one whose need for proving himself a superior producer of truth and beauty is breath-taking. Consider, for example, the following passage from his book On Parts of Animals:

> Of things constituted by nature some are ungenerated, imperishable, and eternal, while others are subject to generation and decay. The former are excellent beyond compare and divine, but less accessible to knowledge. The evidence that might throw light on them, and on the

35/ For a fuller account of Greek belief and value presuppositions, see author's paper "Beliefs, Values, and Economic Development," Journal of Farm Economics, Nov. 1960, pp. 791-796.

> problems which we long to solve respecting them, is furnished but scantily by sensation whereas respecting perishable plants and animals we have abundant information, living as we do in their midst, and ample data may be collected concerning all their various kinds, if only we are willing to take sufficient pains. Both departments, however, have their special charm... Every realm of nature is marvellous: and as Heraclitus, when the strangers who came to visit him found him warming himself at the furnace in the kitchen and hesitated to go in, is reported to have bidden them not to be afraid to enter, as even in that kitchen divinities were present, so we should venture on the study of every kind of animal without distaste; for each and all will reveal to us something natural and something beautiful. Absence of haphazard and conduciveness of everything to an end are to be found in Nature's works in the highest degree, and her manner of generating and combining in ever-changing variety is a form of the beautiful. (Last clause somewhat paraphrased). 36/

Posterity owes little to the achievements of ancient Greece during the period of her pronounced economic advance in which McClelland's n Achievement score for her is highest. In contrast, there hardly is a branch of modern science, art, or humanities which does not have its beginnings in the prodigious achievements of the Greeks in later periods, when according to McClelland's scores, their "need for Achievement" had about fizzled out. There is nothing wrong with his numbers, except the meaning of name he gives them is terribly misleading. For the decline in his n Achievement scores from the early to later periods of Ancient Greek civilization does not mean a fizzling out of a high level motivation of the Greek people to prove themselves highly praiseworthy persons. On the contrary, it simply means that they made a profound shift in the kind of life they felt was most worth striving to achieve.

Nothing could be further from the truth than our own middle class notion that people are without high level of achievement motivation unless they are economic-go-getters, and that no societies are achieving societies unless they continually increase output of material goods and services per unit of input.

While McClelland never puts his reader on guard against the misleading implication of his n Achievement as applied to individuals, there is one passage in which he does recognize its misleading implications as applied to societies. The passage reads: 37/

> In terminological shorthand, let us refer to those societies which are developing more rapidly economically as "achieving societies." Like most attempts at brevity, the use of this term is misleading because there may be types of societal "achievement" that are in no way dependent on an expanding economy--e.g. military, political, artistic, or intellectual achievement, or perhaps ever greater achievement of peace of mind.

36/ The Works of Aristotle, translated into English under the editorship of J. A. Smith and W. D. Ross, Vol. V, De Partibus Animalism, Book I, 644 $^{b}22$-645 $^{a}25$.

37/ The Achieving Society, p. 63.

Then he continues:

> Our choice of terms has been dictated partly to avoid a long, though more accurate periphrasis, partly to reflect the association of n Achievement with this kind of social expansion, and partly to contrast such societies with the "affluent society," popularized by Gabraith in which the emphasis is the reverse of what it is in the achieving society--namely on slowing down production rather than speeding it up.

We admire the dexterity with which McClelland here builds a lawyer's case for making his term "n Achievement" mean what he wants it to mean instead of what it actually means. He pays a pretty high price for this "achievement", as it sweeps under the rug the fact that there are as many types of n Achievements as there are motives. Thus n Achievement is a house with many rooms, but McClelland actually invites us into only one while seeming to give us the run of the whole house. In this way, he leads us into a poker game in which there are more cards under the table than there are on the table.

Nonetheless we can play the game to good advantage if only we keep a vigilant eye to the hookers involved in the fact that, while his term n Achievement is equally applicable to every motive, McClelland actually equates it with striving of the individual or a whole civilization to prove themselves prized personalities by excelling in economic as well as noneconomic employments. In this motive, it is not what one does that counts, but how well he does whatever he lays his hand to. McClelland's outstanding accomplishment is showing that a steady increase in the level of this particular need for achievement precedes an extended period of economic progress, and that a steady decline in the level of this need precedes an extended period of economic stagnation or decline.

VI. The Components of Entrepreneurial Behavior and Their Tie-In with the Need for Achievement

The translator of any society's high premium on doers into concrete economic performance is the entrepreneur--the man who organizes the firm (the business unit and increases its productive capacity).

Two central questions arise from this fact. First, what is entrepreneurship? Precisely what do economists, sociologists, and others mean when they say that someone engaged in business is behaving in an entrepreneurial way, irrespective of the particular type of business activity, whether buying, selling, producing, or loaning capital? What are the essential components of the entrepreneurial role?

As McClelland observed, answering this question "was not easy." 38/ Much study was given to it. After careful appraisal of the literature, his findings add up to essentially the following definition. 39/ The entrepreneurial role is a way of work and life whose excellent performance calls for high level personal need and capacity for (1) risk-taking as a function of skill, not pure chance; (2) energetic, innovating activity; (3) individual freedom and responsibility for initiating decisions on what to do; (4) a feedback of concrete knowledge on how well actions are proceeding in line with expected results of initiating decisions; (5) guidance of present decisions and actions by long-range perspective

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38/ The Achieving Society, p. 208.
39/ The Achieving Society, see table 6.1, p. 207.

of future possibilities and preference for larger remote rewards to smaller immediate ones; and (6) organizational skills that can gear a multitude of activities into each other so as to achieve desired results with the least amount of effort and friction possible.

This last component calls for two comments. First, there is some disagreement as to whether the organizational skills requirements is a necessary part of the entrepreneurial role or whether it belongs to management. Second, the literature usually equates "organizational skills" with ability to coordinate the activities of different persons in a given firm. I assume the emphasis on persons doing the operations rather than on the operations as such, arises from the fact that most writers on this subject have in mind factory-type production units. In such production organizations, the many operations on each unit of production are carried on simultaneously; hence they must be carried out by different persons. This factory imagery is misleading when carried over into farming where the many operations on a given product are, for the most part, separated by wide time intervals. This means that the overwhelming bulk of farm production units can be and are organized into family businesses in which the entrepreneur and his family do most of the work in each operation, one after the other. 40/ The fact that farm operations are mainly separated by chunks of time instead of chunks of space may well mean that successful guidance of farm production units requires an even greater degree of organizational skills than does the successful guidance of industrial production units. But this distinct possibility is obscured by run-of-the-mine treatises on entrepreneurship and management that approach the subject from the standpoint of factory processes in which the in-plant organizational problem is mainly one of coordinating the simultaneous doings of as many different persons, rather than organizing many temporarily separate activities of the same person into a smooth flowing sequence. We shall return to this point later.

Here we need to center on the second question. What are the personality traits which lead people to behave in an entrepreneurial way? Is saying that people have a high level need of identifying themselves as significant doers through excelling in their chosen work only an alternative way of saying they seek to behave in an entrepreneurial way as defined above? More specifically does this motivation lead people to do their best in occupations in which there is substantial chance of failure but which may also be turned into desired outcomes by superior skill and ability? In similar fashion, does high level need for proving themselves deserving of highest self approbation, respect, and esteem lead people to do their best and be happy in each of the specific types of activities that add up to an entrepreneurial way of living and making a living?

That is what the remainder of this section is about. The experimental evidence on the questions cited is pretty clear cut. It is not the purpose to cite more than a fraction of it, nor become bogged down in the methodology by which the evidence was obtained. Instead, the purpose is the very limited one of giving only as much of the empirical data and methodology as is necessary to get a good grip on the tie-in of each of the essential components of the entrepreneurial role with what McClelland calls high n Achievement, and what we have long called the need for proving oneself a prized innovator type of personality--a

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40/ In other writings, I have spelled out this point more completely. See for example, "Agriculture in an Increasingly Urban Society," paper prepared for New England Agricultural Economics Council, Durham, New Hampshire, June 28, 1961, pp. 17-21, mimeographs available from author.

superior doer in one's chosen work, whatever his specific employment this may be.

A. Risk-Taking: Entrepreneurship involves risk-taking. But what kind of risk-taking? Businessmen like a "safe bet." They shy away from gambler-type situations in which luck is the sole determinant of outcomes, and in which skill and judgment of the actor plays no part. On the other hand, businessmen dislike completely safe situations in which desired outcomes require nothing more of one than doing what anyone with proper skills or knowledge can do. 41/

Now, does a high level need of proving oneself an innovator type of personality lead people to seek moderately risky employments on the one hand, and avoid gambler-type employments on the other? What does experimental evidence show? Again, how does a high level of achievement motivation influence the efficiency of people under varying degrees of success? And how does this motivation influence people's estimates of the chance of success? These questions are now considered in the order stated.

(1) Attitudes toward risk-taking in games of skill: On the first question, the experimental evidence is clear-cut. For example, a study of distances from a peg at which 5 and 6 year old children stand when they are playing ring toss, showed that persons with high n Achievement choose predominantly to stand at moderate distances from the peg. In contrast, those with low n Achievement showed no marked preference. They threw more often from very near the peg or very far away than did children with high n Achievement. In other words, those with high n Achievement took "moderate risks," standing where their skill was most likely to pay off in terms of success-feelings. If they stand close to the peg, they are much more likely to throw the ring on, but they are less likely to get any job-satisfaction from doing so. If they stand too far away, not only are they much less likely to succeed but when they do succeed they don't get as much satisfaction as when they stand at a moderate distance, because they feel their success is due to luck instead of their abilities.

Similar types of experiments have been carried out for college students using shuffleboard games, pitching pennies in different size holes, playing ring toss games, and working out pencil maze puzzles of varying degrees of difficulty. In all cases subjects with high n Achievement more often chose to work on tasks of moderate risks than did subjects with low n Achievement. 42/

(2) Attitudes toward risk-taking in games of chance: But what about their attitudes toward gambler-type situations in which the outcome happens according to laws of chance under which personal abilities count for nothing. On this question, the evidence thus far obtained is not so clear-cut as on the first. But on the whole, the data show that in true gambling situations where skill cannot influence the outcome, subjects with high n Achievement prefer the safest bets they can get. Like businessmen, they don't like pure gambling situations and show their distaste by choosing the shortest odds possible. In contrast, subjects with low n Achievement behave as many people do in underdeveloped countries. They "like the long shot and they especially like it when there is a large amount to be won." 43/

41/ The Achieving Society, pp. 210-211.
42/ The Achieving Society, pp. 211-213.
43/ The Achieving Society, pp. 213-214.

(3) Efficiency of performance under varying probabilities of success: While subjects with high n Achievement have a decided preference for tasks involving moderately objective risks, do they actually work harder and more effectively at such tasks than they do at taks which are extremely easy if one has the necessary skills, or extremely difficult because luck rather than skill controls the outcome? Again, do subjects with low n Achievement work equally hard under all probabilities of success, or do they work more effectively when the odds are either for or against them?

Considerable research has been done on this problem, both in this country and in Germany, Japan, Brazil, and India. One theme runs throughout all the findings. Subjects with high n Achievement are more likely to do better than subjects with low n Achievement at "tasks which require some imagination, mental manipulation, or new ways of putting things together, as in anagrams, the French problem-solving tasks or complex arithmetic operations." 44/ For example, using college girls as subjects, Atkinson found that those with "high n Achievement performed significantly better than the subjects with low n Achievement at longer odds, particularly the 1/3 conditions, whereas there was no difference between the two types of subjects at shorter odds (1/2 and 3/4)." 45/

Although not yet decisively confirmed in a carefully controlled experiment, much research up to now supports the generalization that:

> ...subjects with high n Achievement tend to do better than subjects with low n Achievement only at nonroutine tasks that require some degree of personal initiative, or even inventiveness, for solution. 46/

Otherwise stated, investigations all show that a high level need for proving oneself a prized doer does not lead to working harder under all probabilities of winning, but only when there is a chance that personal efforts will make a difference in the outcome.

(4) Influence of need for proving oneself on estimating his chances of success: The question now arises as to how this need influences people's judgment as to their chances of success. More specifically, (1) does a relatively high level of this need lead people to overestimate or underestimate their chances of success in pure gambling type situations? And (2) if given accurate information as to odds of success or failure, will people with this need base their action on that knowledge or will they disregard it, out of the belief that their ability is greater than it actually is? And, finally (3) will their need for success lead them to avoid risky employments in which there is no knowledge of their chances of success on the basis of past performance? Or will it lead them to plunge ahead on the basis of a generalized self confidence, divorced from their own performance potential?

Research findings are clean-cut on all these questions. 47/ First, high

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44/ The Achieving Society, p. 216.
45/ The Achieving Society, p. 217.
46/ The Achieving Society, p. 216.
47/ For the mathematical explanation of these findings, the reader should give careful attention to the discussion of Atkinson's formula of the interaction of the need for achievement and risk-taking (Achieving Society, pp. 214-216; 223-224).

n Achievement does not lead to an overestimating of one's chances of success in gambling situations in which the initiative and other skills of the actor can have no effect on the outcome. 48/ Second, neither does it lead to overestimating the probability of success when there are actual facts on success-failure probabilities available. Instead, whenever subjects with high n Achievement:

> have pretty good knowledge on the basis of past performance of how will they do in a course, they base their estimates on that knowledge... They are not impractical dreamers, overestimating their chances of success at everything; instead they rely on facts as far as they are available...49/

But third, when such facts are not available, their sheer need for an image of themselves as proficient doers leads them to "fall back on generalized self-confidence," divorced from their own actual potential for performance. Lacking objective information as to what the odds are, they feel that their chances are better than they actually are. Furthermore, when faced with conflicting evidence concerning the probability of success, they are more apt to overestimate their chances of achieving a favorable outcome than are subjects with low n Achievement. For example, several experiments have been carried out in which the subjects (college students) were asked how many of their class they expected to beat at a shuffleboard game they were playing. About two-thirds of those with high n Achievement thought they would beat more than half of their classmates, whereas only about 1/3 of those with low n Achievement thought they could do as well as the average member of their class. 50/

In all important respects, research findings thus indicate that in estimating the probability of their success, persons with high n Achievement behave in precisely the same way as well motivated entrepreneurs. They show the same conservatism in gambling situations where they know their initiative and skill can have no influence on outcomes. Again, they show the same tendency to base their actions on quantitative knowledge of their chances of success, as measured by the past performance. But when such knowledge is not available they fall back on a generalized over self-confidence in their ability to outdo their competitors in turning risky situations to their advantage. Finally, in this over self-confidence, they are certain they are not taking greater risks but acting solely on the basis of hard facts.

This is the way businessmen act. 51/ For example, in building the railroads, many were built that were not economically justified, as was proved by the subsequent ruin of many stockholders. And they would not have been built had the country not been swarming with thousands of businessmen who repeatedly overestimated their chances of success. But the entrepreneurs who built the roads did not feel they were taking heavy risks. Instead, they thought they were playing a sure thing, fully confident that with their skill and present opportunities they could win out in the end.

The businessman is commonly up against uncertain situations in which no quantitative knowledge of his chances to win or lose is possible until after he

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48/ The Achieving Society, pp. 222-223.
49/ The Achieving Society, p. 223.
50/ Ibid.
51/ For a classic example, see McClelland's quotation from the autobiography of Alfred P. Sloan, describing the decision of General Motors to continue production of Chevrolets after World War I. (The Achieving Society, p. 221).

has made his decisions and reaped their consequences. From research findings on the way in which subjects with high n Achievement behave under such circumstances, we may infer that the typical businessman would never take the unknowable risks that he actually takes except for his capacity to delude himself with the conviction that his ability to perform well is substantially greater than it actually is.

B. Energetic, Innovating Activity: As usually conceived, a businessman, strictly speaking, would not be an entrepreneur if he simply followed traditional ways. There are, however, two distinct types of achievers. One seeks to prove himself through working energetically and efficiently at everything more or less indiscriminately in a conscientious manner. This type of doer is sometimes called the bureaucratic type of manager. His efficiency ideal is keeping the wheels going without hitches. While essential to the ongoing operations of any organization, this type of personality is not conducive to economic progress. For such progress always involves hitches--disruptions in established, smooth clicking operations that are the pride and joy of the conscientious efficient bureaucratic manager. In sharp contrast, there is the entrepreneurial type of manager whose driving ambition is not being an efficient operator and coordinator of established routines, but doing something new. As soon as he solves one problem, he loses interest because he finds no challenge in it. He must constantly be seeking novelty or new solutions to old problems. 52/

Clean-cut quantitative evidence of this distinction between the bureaucratic and entrepreneurial types of personalities was obtained through cross-cultural studies of boys in Japan, Germany, Brazil, and India. The studies contrasted the performance of boys with high n Achievement with that of boys with a high level optimism. The optimism scores were obtained by counting up the number of disagreements of the boys with the following belief and value presuppositions:

> Planning only makes a person unhappy, since your plans hardly ever work out anyway.
>
> There is no such thing as a really permanent friendship. Your friends change with circumstances.
>
> There are some people like great artists and musicians who can be forgiven for not being considerate of others, kind to the poor, etc.
>
> When a man is born, the success he is going to have is already in the cards, so he might as well accept it and not fight against it. 53/

The boy who disagrees with these items is less resigned to fate, more progressive. He believes in planning and fighting against fate.

Now it was found that boys with relatively high n Achievement disagreed with the above belief and value presuppositions less frequently than did boys with relatively low n Achievement. This finding led to asking whether the two groups

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52/ For citations of bureaucratic and entrepreneurial types of managers in current literature, see The Achieving Society, pp. 225-229.

53/ The Achieving Society, p. 226.

of boys would strive to excel in approximately the same degree in all employments. Or would only the boy with high level optimism behave this way? And would the boy with relatively high n Achievement but relatively low level optimism work hard under all probabilities of winning? Or would he seek to do his best only at tasks in which he feels his personal efforts will make the greatest difference in the outcome?

To answer these questions, the behavior of both groups of boys was contrasted with respect to their proficiency in arithmetic problems, the number of outside activities in which they participated, and their leadership promise as judged by their classmates. 54/ In all the four countries (Germany, Japan, Brazil, India) studied, the boy with high level optimism solved more arithmetic problems irrespective of the odds under which he was working. He engaged in more outside activities. And in two of the four countries (Japan and Germany) he was voted by his classmates the most likely to be "a leading member of his community in thirty years."

The point of these findings is not that persons with high n Achievement are necessarily fatalists and that those with low n Achievement are necessarily optimists. Instead, the point is that the drive to excel may lead to two distinct types of managers. One is the bureaucratic type whose need of proving oneself a superior doer leads to conscientious and proficient performance of all ongoing operations of a business. The other is the entrepreneurial type in whom the need to excel is more selective, leading him to shine and blossom in novel situations where successful outcomes do not turn on doing what anyone with given skills can do, but on figuring out new angles and approaches which are more productive than prevailing techniques.

As our culture, by and large, is distinguished by an absence of fatalistic belief and value presuppositions, we see no reason why both types of managers would not be impregnated with optimistic beliefs and value presuppositions in approximately the same degree. 55/ In line with this reasoning, we would expect to find little difference in the proficiency with which bureaucratic and more distinctly entrepreneurial types of farm managers carried on their farm operations. We would expect both types of managers to be farming proficiently and also to be leading participants in community affairs. But we would not expect the bureaucratic type to be trail blazers in new farming practices. In this respect, the more distinctly entrepreneurial type would head the parade and the bureaucratic type would follow rather closely behind, taking over the innovations after their entrepreneurial superiors had proved the new ways to be safe propositions. We would expect the more distinctly entrepreneurial type of farmers to have stronger preference for employments involving a greater degree of risk--a fact that might be quantitatively determined through experiments in games of skill.

C. Individual Freedom and Responsibility for Actions: The entrepreneurial role implies individual freedom and responsibility for being the initiating cause of actions; so much so that some people define an entrepreneur as the one in a firm who ultimately is responsible for making top level decisions which cannot be delegated to subordinates.

54/ The Achieving Society, p. 227, table 6.4 gives tabulation of results of these tests.

55/ There is some quantitative evidence showing that this is precisely the case, The Achieving Society, p. 228. And if we may trust the usual American History, there is enormous qualitative evidence to this effect.

All experimental evidence thus far obtained show that high level need for proving oneself a prized innovator personality causes people to hunt out and thrive on situations that invest them with power (freedom) and responsibility for initiating actions. A high level of this motivation (need) prevents one from doing well in situations where he cannot be a decider on what is to be done. It also prevents him from finding satisfactions in jobs in which he has no guiding hand.

But there is another issue here. It centers around working for oneself versus working for others. How free must an entrepreneur be in order to be happy and do his best? Is the need for entrepreneurial freedom so imperious that it can be fully met only by working for oneself rather than for a group? Is working for others necessarily any less incompatible with the need for being the initiating cause of productive activities than working for oneself? More specifically, does the high premium which farmers are said to place on being owner-entrepreneurs actually stem from their need of proving themselves able prime movers of productive operations? Or does it stem from Jeffersonian folklore, according to which the spirit of self mastery can find completion only in an agrarian economy in which individual families are debt-free full-owner operators, never having to take account of the will and interests of another living soul concerning how they run their business?

Available evidence does not support the view that being in business for oneself is necessary for keeping the entrepreneur "on his toes." In cross-cultural studies of many preliterate tribes, it was found that many tribes with a high premium on doers did not stress private as opposed to public ownership more than did other cultures which put a low premium on economic doers. Also, two experimental studies carried out by French and De Charms point to the same conclusion. In both experiments, the subjects worked on a common task in which the problem was to put together scrambled parts of a story. In one experiment, each individual was permitted to submit his own individual solution to the total task <u>after</u> discussion with the other individuals working on the same problem. Under this condition, the individual could get credit only indirectly, as having contributed to the successful solution, worked out by the whole group. In the other experiment, only one final solution was permitted to be given by the group to which each person could contribute. In the first situation, the subject could get individual credit for successful effort and in the second situation he could get credit only indirectly, as having contributed to the successful solution worked out by the whole group.

The difference in the two situations did not run in terms of responsibility for action as such but in terms of a person working for himself or with others. Under these opposite orientations to precisely the same total job, it was found that:

> ...there was absolutely no difference in the efficiency with which the subjects with high n Achievement work; they work just as hard for a group goal as they did for an individual goal...Apparently subjects with high n Achievement are not so interested in public recognition of their individual success that they must work for themselves in order to be sure to get it. On the other hand, they do need some measure of how well they are doing... and they do need to be able to make the decisions as to

> what is to be done or they can feel no satisfaction in success. 56/

But it is not true that such a person must:

> ...therefore work for himself rather than some group enterprise. Individual responsibility for action and working for oneself must not be confused, although they often go together. A man may get achievement satisfaction from having contributed to the success of a group enterprise, so long as it is he who made some of the decisions contributing to the successful outcome and he therefore has some way of telling how well he has done. 57/

Nonetheless, we would expect farmers with high n Achievement to place a high premium on being owner-entrepreneurs. For farmers are heirs of a tradition which has always confused individual freedom and responsibility with working for oneself and coercive conformity with working in group enterprises. It is quite possible that generation after generation of entrepreneurially gifted farmers pay a high price for this confusion because the child-rearing beliefs of each generation of farmer-parents drill the same confusion into each new crop of farm sons and daughters.

D. Feedback of Information on Results of Decisions: As previously stated, one of the essential requirements of the entrepreneurial role is a personality who thrives on a continual return of information on how well he is doing what he is trying to do. Now, the question here is whether or not such persons are the ones with high level need for excelling in their work. In McClelland's terms, are they the ones with high n Achievement?

We would like to get this question through handling a number of lead-up questions. First, do all employments stand on the same footing with respect to the definiteness of the information they feedback on how well one is doing what he is trying to do? Second, can a college president, an economics professor, or a priest, for example, fail with the same sunlit clarity that a businessman can fail? Third, is subsequent performance of all persons most improved by a "task feedback," which spells out to them the quality of their skills? Or is the performance of some people most improved by a "feeling-feedback," which tells them how well they are "cooperating" and making others feel happy, but tells little about their technical performance? Which of these feedbacks is most helpful to persons with high and low n Achievements, respectively? And which feedback is most essential to excellent performance of the entrepreneurial role? Fourth, is there an appreciable difference in the effect of money rewards on the performance of persons with high and low n Achievements, respectively? Do those with low n Achievement value money primarily for its own sake or for what it will buy? Do those with high n Achievement value money primarily as a feedback of highly tangible assurance that they possess personal qualities--abilities they most prize? Finally, what are the implications of findings on these questions as to the nature of the so-called "profit motive?" We now take up these questions in the order stated.

56/ The Achieving Society, p. 230.
57/ Ibid.

First, occupations differ sharply with respect to the degree they permit a feedback of precise information on whether one's decisions are bringing about desired results. The feedback of business operations is so precise in terms of profits, sales production quotas, and the like, that the entrepreneur can scarcely help knowing whether or not he is doing a good job--making a series of correct decisions on what to do. The same is true of medicine and law, for example. The surgeon soon knows if he succeeds or fails in removing the cancer, and the lawyer quickly knows if he wins or loses the case. But the same is not true of many other occupations. For example, a teacher or a clergyman, may have only a general kind of feedback on how well he is doing what he set out to do. In such employments, a man commonly can have no other test of his proficiency than the knowledge that he has acted as he should have acted according to the established traditions of his occupation.

Second, it follows that many professionals cannot be proved a failure in the same devastating sense as a businessman.

> Contrast a businessman and a priest, for example. A businessman can operate according to the best established business practices--good personnel practices, good sales policy, efficient production procedures, etc.,--and still fail. Despite doing everything "correctly," his products may not sell or may not bring sufficient returns to keep the business going. His success is determined by results, not by following established practices. A priest, on the other hand, knows only that he is being a better priest, if he obeys more rigorously the rules of his profession, or more scrupulously follows its prescribed rituals. He cannot "fail" in the same precise sense that a businessman can. 58/

The human animal may be quite fortunate in the fact that occupations vary widely in the degree to which they feed back precise, quantitative information on how well one is doing what he is trying to do. For it is not necessarily the case that all kinds of people like to have concrete knowledge of the results of their choices of actions. Such knowledge may be a source of acute anxiety, as it not only gives proof of success but also inescapable evidence of failure. Some people tend to go to pieces in the face of undeniable proof that they are empty of personal qualities they most prize. Such persons might assure themselves a happier life if, instead of business, they chose a profession in which evidence of doing a good job is given by the extent to which one follows closely the established traditions of the occupation.

Third, experimental evidence shows that persons with high n Achievement meet the "task-feedback" requirement of the entrepreneurial role. That is, they best improve their subsequent performance when they get information on how well they are doing their specific task operations, and they are not much impressed with information on how happy they are making other people feel.

For example, in her experiments with subjects putting together scrambled parts of a story, French tested the responsiveness of her subjects to two different kinds of feedbacks. After working for a while, she stopped them for 2-minute discussions of their work. To half the subjects she began by saying, "this group is working very effectively." Then she brought up such specific

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58/ The Achieving Society, pp. 236-237.

individual behaviors as "reading off cards immediately, trying to rough out possible plots, making use of grammatical cues, identifying characters in the story, etc." 59/ This is the "task feedback." To the other half of the subjects she began by saying, "This group works very well together." Then she mentioned such individual behaviors as "praising each other for making good suggestions, failing to argue or keeping arguments friendly, etc." 60/ This is the "feeling feedback;" it tells doers nothing about the quality of their specific task operations, but it tells them a great deal about their "social skills" to make people happy with each other.

The experiments showed that the "task feedback" leads persons with high n Achievement to better subsequent performance, but the feeling feedback makes little impression on them. Knowledge that they are behaving nicely and properly according to the best rules of cooperative interaction does not lead them to do better work. The reverse is true of subjects with low n Achievement. They work more efficiently after a "feeling feedback" than they do after a "task feedback."

In line with this finding, French carried out another series of experiments that showed that subjects with a high n Achievement chose an expert over a friend as a working partner, whereas the reverse was true of persons with a high level need for being liked. 61/ What "the achievers" most prize in themselves is workmanlike skills for solving problems rather than "social skills" for making themselves pleasing to others. In this respect, they behave as entrepreneurs must behave, lest they soon cease being businessmen.

The same result was confirmed indirectly by experiments of Moss and Kagan in which they found that, in boys and young adults, high n Achievement was highly correlated with mechanical achievement or the degree they "attempted to master mechanical skills and manifested involvement in activities such as carpentry, construction of model vehicles, engines and motors and craft work." 62/ In this context, the significance of these findings is that construction and mechanical or carpentering activities give excellent "task feedback" on one's capacities to make decisions leading to a favorable result. In making a tower, repairing a tractor, or making a haystack, the object being made "tells" one how well he is doing.

From these experiments, we would infer that entrepreneurially gifted farmers are persons with a high level motivation for proving themselves superior doers. And, we would expect this fact would be reflected in studies which measured the extent of their preference for the "task feedback" rather than the "feeling feedback." We would also expect the extent of this preference to be highly correlated with the extent of their preferences and aptitudes for work involving a high degree of mechanical skills.

Fourth, the marked differences in the responsiveness of subjects to the "task feedback" and the "feeling feedback" ties into correspondingly different attitudes toward moneymaking. For many experiments show that persons with high level need for achieving evidence of themselves as superior doers, are not interested in money for its own sake or what it will buy, but as a yardstick of their competence.

59/ The Achieving Society, p. 232.
60/ Ibid.
61/ Ibid., p. 232.
62/ The Achieving Society, p. 232.

If the motive to make money is the desire to have it for its sake or for what it will buy, then higher money offers will cause people to work harder. This seems to be true of persons with low n Achievement. But for persons with high n Achievement "money incentives make them work no harder and, in fact, may even lower the performance slightly." 63/

Two series of experiments, using ring-toss games, bear out this point. 64/ In the first series, subjects with high n Achievement (above the median) and subjects with low n Achievement were simply told that the purpose of the work was to find out their potential for excellent performance, but no pay was offered for the most successful performance. Under this condition, the performance of the "highs" was appreciably superior to that of the "lows." Then, in the next series of tests, money rewards were introduced. For example, the subjects were told: Today we are going to toss the ring at the peg from two different distances. Since we want to see your very best performance when you are really putting out, we are going to offer a $5 reward to the one making the best record for each of the two distances. Each of you has the same chance of walking off with $10 for your efforts today. In other experiments, the pay varied from $1.25 to $10.00 for the best performance. But in no instance were the subjects told that the purpose of the tasks was to test the extent to which they possessed prized personal qualities such as intelligence, leadership capacity, coordination, steadiness under strain, initiative, inventiveness, and the like. Under this circumstance, the number of successful ring-tosses by "highs" decreased while that of the "lows" increased, until there was little or no net difference in their performance.

While persons with high level of need for identifying themselves as prized doers are not challenged by money for its own sake, the question remains whether they place a higher premium than others on money rewards as a measure of ability to accomplish difficult undertakings. To answer this question, Litwin carried out experiments using ring-toss games. 65/ He asked the subjects to estimate the probability of making successful ringers at successive distances from the peg. There were no differences in estimates between the high and low n Achievement groups. Then he asked the subjects of each group to state how much money reward (up to a dollar) they believed one should receive for making a "ringer" at successive distances from the peg. The awards which the "highs" believed fair were significantly higher than those which the "lows" believed justified. When plotted to the best fitting line, the results of the experiment clearly showed that:

> ...for tasks perceived as growing increasingly difficult, subjects with high n Achievement believe the rate of pay for accomplishing more and more difficult tasks should increase more rapidly than do subjects with low n Achievement...Achievement means more to the highs, and they like greater recognition of it in money terms. 66/

On the basis of such experimental findings as these, McClelland concluded that what "economists and others have been calling for so long and so inaccurately the profit motive is actually the achievement motive." That is, the drive of the

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63/ The Achieving Society, p. 234.
64/ The Achieving Society, p. 235.
65/ The Achieving Society, p. 223.
66/ The Achieving Society, p. 223.

businessman for more and more money is not greed but need for concrete assurance that he possesses prized personal qualities. In a forceful passage, McClelland put the point this way:

> If we may assume, as all our evidence indicates, that Western capitalists were actually motivated by the achievement motive, we can now understand why they were so interested in money and profits although not paradoxically for its own sake. Money to them was the measure of success. It gave them the concrete knowledge of outcomes of their efforts that their motivation demanded. Even among college students who have no extensive experience with the business world, money rewards have come to symbolize to those with high n Achievement in particular the measure of success. Yet these same students paradoxically do not work harder for money: they want it primarily as a symbol of higher achievement. What gallons of ink and acres of paper might have been saved if economic and political theorists had understood this distinction sooner! 67/

What McClelland here describes as "the achievement motive" I have long called the commitment (1) to proficient work as the badge of superior merit and (2) to the natural or moral right of individuals to acquire as much property (income) as they can as fair return for their work. I have traced the origins of these motivations among American farmers to two main sources. First is the revolutionary interpretation of the ethical significance of work by the religious reformers of the late 16th and early 17th centuries. Second, is the equally revolutionary interpretation of the natural or moral right to acquire capital by the Natural Rights Philosophers, especially John Locke, of the late 17th and 18th centuries. 68/ So, in this context what strikes us most is not the revelation of any new motive in our culture, but the fact that, under experimental conditions, McClelland shows that persons with high level of striving for excellence in any employment of their choice are the ones with personality traits required for excellent performance of the entrepreneurial role.

E. Unique Attitudes Toward Time: The previous definition of this role stated that it called for persons who habitually guide their present decisions and actions by a long-range perspective of future possibilities and who prefer relatively large remote rewards to smaller immediate ones.

It is questionable if there is any major industry in which excellent performance of the entrepreneurial role is more dependent on persons with these unique attitudes toward time than in farming, where large sums of money must be tied up in fixed assets for many years and where solvency is so subject to the ups and downs of prices.

The question here is if persons whether with high level need to excel are also persons that meet the "think-ahead" requirement of the entrepreneurial role.

67/ The Achieving Society, pp. 236-237.

68/ Brewster, John M., "The Relevance of the Jeffersonian Dream Today: A Current Look at Griswold's Farming and Democracy," prepared for Homestead Centennial Symposium, Univ. Neb., June 11-14, 1962, pp. 5-6, 16-43. Mimeographed copies available from author.

On this question, the experimental evidence is clear-cut. McClelland sums it up in these words:

> ...the data all indicate that individuals with high n Achievement tend to be oriented in time toward longer-range goals, even when that means foregoing immediate pleasures.../They/ fit the picture of a man hurrying forward with his attention focused on the more distant future so that present time seems to be slipping past him rapidly... 69/

This disposition and ability of persons with high n Achievement to identify themselves with long-range targets involves three component attitudes toward time, all of which are experimentally identifiable.

First, for persons with high n Achievement, time is "short" and passing more rapidly than it actually is. In the stories they write, their time metaphors represent it as "going somewhere in a hurry," like "a galloping horseman, a fleeing thief, a bird in flight." 70/ Knapp and Garbutt found that 8 out of 10 times metaphors preferred by subjects with high n Achievement suggested swift movement, whereas none of the metaphors preferred by subjects with low n Achievement suggested swift movement. For the latter a good image for time is a quiet motionless ocean. 71/

Owing to their feeling that time is short and rapidly passing, subjects with high n Achievement tend to recall past events, such as the Cuban crisis, as nearer to the present than they actually are. They also anticipate future events before they actually occur. Asked to estimate how long a moving object will take to reach a target after it is hidden from their view, they say it will reach the target before it actually does. 72/ For them the future is "upon us before we know it." So, they tend to think their watches are slow when they are not. 73/

Second, they also have a longer future time perspective than do subjects with low n Achievement. For example, Gotzl found that school children in the 9th grade with high n Achievement (hope of success) showed better recall in 24 hours for tasks to be reported on 8 weeks hence than for tasks to be reported on the following day, even though both tasks had already been completed. The reverse was true of children with low n Achievement (fear of failure). They put their minds more on tasks to be reported on in the near future and remembered them better. Seemingly thinking in terms of proving oneself a prized doer involves "action forward in time"--thinking ahead. This disposition even shows up in one's grammar. Experiments show that persons with this disposition use more "anticipatory tenses"--phrases indicating "forward orientation" in the writer's mind. There is thus no mystery in the fact that:

> Western cultures have primarily a Messianic (whether socialist or Christian) conception of history as "going somewhere" as contrasted with Eastern countries, which at least traditionally should have had a lower

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69/ The Achieving Society, p. 325.
70/ The Achieving Society, pp. 326-327.
71/ The Achieving Society, pp. 328-329.
72/ The Achieving Society, p. 325.
73/ The Achieving Society, p. 327.

> n Achievement level, and have certainly been characterized as thinking time as a "quiet motionless ocean." 74/

Third, high level motivation to excel in risky employments evidently includes the ability and disposition to forego immediate satisfactions for the sake of achieving larger but more remote rewards. It is as if preoccupation with long-range occupational goals blocks out pleasures of the moment.

One of the many experimental examples of this fact was obtained by Mischel in a series of studies of delayed reward in which children were given the choice between a small reward now (e.g. candy bar) and a larger one a week later. 75/ Among predominantly lower-class Negro children in Trinidad he found that those with higher n Achievement more consistently chose the larger but delayed rewards. Also they were asked what they most wanted to be if a "magic man" would change them into anything they wanted. Those with high n Achievement more frequently mentioned occupations, such as policeman, pilot, doctor, and priest, or achievement-related imagery such as important, bright, successful. In contrast, the answers of those with low n Achievement ran more to nonachievement related imagery such as nice, a baby brother, honesty, and the like.

Possibly the achievement fantasies of those with high n Achievement may help them bridge the interval during which their pursuit of a larger but delayed reward requires sacrifice of more immediate satisfactions. But whatever be the explanation, all the data indicate that they locate themselves at far-ahead points in time and then organize their actions in a beeline to their forward positions, even when doing so means foregoing immediate satisfactions.

This knowledge leads to a more precise definition of the "asceticism" which is commonly associated with business success. Usually asceticism is equated with the desire to practice self denial for its own sake. But it may also be the desire to forego immediate satisfactions as a means of achieving greater ones later on, even in the world to come. As McClelland points out:

> What the present data suggest is that one should distinguish between asceticism as a means to long range goals, and asceticism as an end in itself. High n Achievement and successful entrepreneurship may tend to behavior that looks ascetic--in the sense of capacity to forego immediate pleasures for longer range ones but not necessarily in the /sense of self denial for its own sake/. 76/

For two reasons we would expect successful entrepreneurship in farming to be especially associated with those who are particularly gifted with a longer future time perspective and a stronger preference for larger remote rewards compared with smaller quick ones. First, through the biological process of growing things, Nature places the rewards for successful entrepreneurship in agriculture relatively far ahead in time as compared with many other occupations. Second, farming, by and large, is composed of family businesses in which the capital needs of the business and the living needs of the family are commonly competing for the same dollar. Under this circumstance, it strikes us that the more successful entrepreneurs in farming would be those most endowed with potent

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74/ The Achieving Society, p. 328.
75/ The Achieving Society, p. 328.
76/ The Achieving Society, pp. 328-329.

attractions to long-range goals that largely block out inclinations for satisfactions of the moment, whenever limited means force a decision between the two.

F. Skills for Coordinating the Activities of Other Persons: All authorities agree that excellent performance of the entrepreneurial role requires the disposition and capacity for placing oneself with forward targets in time and then using those targets as a guide in organizing actions in a time sequence. As previously explained, however, the entrepreneurial role is sometimes said to involve another kind of organizational ability; viz., the ability to coordinate the activities of many other persons in a business. This point deserves three comments.

First, as previously explained, there is some confusion in the literature on whether this kind of organizational skill belongs to the entrepreneurial role or to the supervisory role. Second, there is no experimental evidence that subjects with high n Achievement have superior supervisory skills. But they have a personality trait that should lead to greater supervisory efficiency. This trait is the decided tendency to choose experts over friends as working partners in problem solving tasks. 77/ They would rather work with someone who can really help get the job done than with someone they know and like. This personality trait that should promote business success because choosing personnel in terms of task-oriented skills should contribute more to business efficiency than choosing them in terms of other personal qualities, such as kindliness or joviality.

Third, in farming over 96 percent of farms are family businesses in which operating families are risk-taking managers who do most of the work. Such businesses account for about 75 percent of total farm marketings and this percentage is growing larger, not smaller. Very few farms use as much as 2 hired man-years of labor per year, and there is no evidence that this situation will change in the near future. In line with this fact, there might be some question as to how essential the ability to supervise activities of other persons in a firm is to successful entrepreneurship in farming.

VII. A Guiding Hypothesis

Whatever the final answer might be, it would not disturb the value to us of the extensive research of McClelland and his associates. Their research provides a hypothesis that may be of use especially to those concerned with what personality traits are essential to excellent entrepreneurship in farming. Here is the hypothesis: To say that farmers have high level need for achieving assurance of prized personal qualities by excelling in their occupation is merely an alternative way of saying that they possess the specific personality traits which are indispensable to efficient performance of the entrepreneurial role. This idea we might call "The McClelland Hypothesis."

Given an appropriately selected control group of farmers (which might well include farm youth), techniques are available for testing this hypothesis. This testing would include four major lines of investigation, and two minor ones. The first four of the following are the major ones and the last two are the minor ones.

(1) The first major job would be to develop n Achievement scores for individual participants in the control group. From this point on, investigations

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77/ The Achieving Society, p. 238.

would be designed to compare farmers with different levels of n Achievement with respect to their ability to meet each essential personality requirement of the entrepreneurial role.

(2) The second major job would be to measure the variation of subjects with different levels of n Achievement with respect to:

a. Their preference for varying degrees of risk and uncertainty conditions in games of skill and games of chance.

b. Their efficiency of performance under varying probabilities of success.

c. Their tendency:

1) To underestimate or overestimate their chances of success (a) in gambling-types of risk situations, where skill plays no part in the outcome, (b) and in uncertainty conditions in which skills are a controlling factor;

2) To base decisions and actions on accurate information about probability of success, if such information is available;

3) To disregard such objective knowledge and plunge ahead out of the belief that one's ability to control outcomes is greater than it actually is;

4) To avoid risky employments in which there is no objective knowledge of success probabilities on the basis of past performance.

(3) The third major step in testing the McClelland hypothesis would include investigations designed to compare farmers with different levels of n Achievement with respect to their responsiveness.

a. To the task-feedback type of knowledge on how well their decisions and actions are serving to lead them to expected goals;

b. To the feeling-feedback type of knowledge of how well they are doing;

c. To money rewards as primarily a measure (index, symbol) of abilities to accomplish increasingly difficult tasks;

d. To money rewards for primarily their own sake or for what they will buy.

(4) The fourth major step would include investigations designed to compare farmers with different levels of n Achievement with respect to their disposition and ability to guide present decisions and actions through identifying themselves with long-range perspectives of future possibilities. As previously explained, variations in this disposition and ability are gotten at indirectly through experiments designed to measure:

a. The frequency with which subjects prefer time metaphors that represent swift movement of time--"something that's going in a hurry;"

b. The extent to which they tend to date past events nearer to the present than they actually are;

c. The extent to which they tend to expect future events to happen before they actually happen;

d. The extent to which they tend to recall their distant future duties more readily than their less distant duties;

e. The frequency of their preferences for larger remote rewards to lesser immediate ones.

(5) The preceding section pointed out that excellent performance of the entrepreneurial role requires persons with a high level preference for employments that invest them with a high degree of freedom and responsibility for being initiators of actions they carry out rather than being primarily agents for executing decisions formulated by others. Testing the McClelland hypothesis does not necessarily call for special investigation to measure the variation of farmers with respect to this preference. This is true because such comparisons can be derived from data obtained from step 1 which compares subjects with respect to their preference for, and efficiency in, tasks with varying degrees of risk and uncertainty. However, McClelland's investigations did include experiments designed to show whether or not working for oneself or working in group enterprises (i.e. for others) had any measurable effect upon the quality of performance of entrepreneurially gifted persons (those with high n Achievement). He found no such effect, even though the popular view is that working for oneself is essential to maximum efficiency of entrepreneurs. Since devotion to the owner-entrepreneur ideal is said to be widespread among farm people, the above lines of investigations might be expanded to include tests of whether it actually has any measurable effect on their entrepreneurial efficiency.

(6) Again, it was pointed out in the previous section that there are two distinct types of managers. One is the bureaucratic type whose need to excel takes the form of doing all his operations in an efficient, conscientious manner. The other is the distinctly entrepreneurial type in whom the need to excel leads to being a trail blazer in new and more productive practices. I am inclined to the view that quantitative determination of the extent, if any, to which farmers may fall into these two categories could be made through investigations designed to relate farmers with different levels of n Achievement to the frequency with which they tend to be the first to adopt, or develop on their own accord, new production and marketing technologies. I am here assuming data for determining this frequency can be obtained from inquiries of farmers in the control group as to the dates they adopted certain specified technologies. I am also assuming that the investigator will have independent information as to when the specific technologies first came on the market.

I do not regard this last suggested line of investigation as absolutely necessary for testing the hypothesis under discussion, but if it were carried out, it would, I believe, yield valuable information.

VIII. Conclusion

In their immense research on what motivations are essential for economic development, McClelland and his associates employed a hypothesis that might prove useful to those concerned with how farmers compare in respect to personality traits that are essential to excellent performance of the managerial role in farming. However, in conclusion, I wish to comment on their work from another standpoint. This standpoint is that the research attack of the behavioral sciences on the problem of motivation is advancing so well as to afford real hope that in the years ahead they will provide much needed information on psychological variables involved in policy struggles. What I have in mind here runs substantially as follows:

Since coming with the U. S. Department of Agriculture nearly 25 years ago, I have been fascinated with the fact that conflicting belief and value presuppositions are obviously at the heart of farm (and other) policy problems, and yet, by and large, they are not easy to identify and get hold of. To progress on this problem, I felt it advisable in the beginning not to burden myself with the abstract problem of values in general. That could come later. The more profitable first task I felt was to (1) identify the strategic belief and value presuppositions that have long functioned as chief guides to policy formation, (2) spell out the conditions giving rise to them in premachine America, (3) identify the model (form) of social organization traditionally interpreted and prized as promising their maximum fulfillment, (4) identify the conflicts generated among them by technical advance, and (5) then show the bearing of these conflicts on the shaping and execution of effective programs for resource adjustment in agriculture and improving farm income levels, as well as on larger policy struggles that have characterized our industrial society since the advent of the Machine Age. (For reasons previously explained, whether we use the word ethic, motives, or needs, in this context is of no consequence).

We need not relate here the components of each of the three belief and value systems cited. Suffice it to say that until the Great Depression American people, by and large, placed very heavy weights on our historic enterprise beliefs; so much so, that of all conceivable forms of political-economic organization, the one they have traditionally interpreted as promising greatest fulfillment of all their values, is distinguished by a division of society into two spheres. One sphere is a big private sector, characterized by an absence of collective restraints on individual action; and the other is a tiny public sector of popularly controlled government that abstains from imposing restraints (collective rules) on the power of individuals to run their businesses under whatever rules they choose. John Locke called this large private sector the "State of Nature," Adam Smith baptized it with the new name of "natural liberty," and today we refer to it as the "free market." We often refer to this image of the good world as the Lockean model of social organization because John Locke first derived it in 1690 from commonly held presuppositions of his time.

With the shift from Pre-Machine to the Machine Age, technological advance has thrown and continues to throw enterprise beliefs into conflict with work ethic and democratic beliefs. 78/ These conflicts are the central factors in

78/ For an excellent identification and summary of these conflicts in the current farm problems and also the way in which current farm programs may be viewed as a way of minimizing the distress of these conflicts, see "Belief and Value Presuppositions Underlying Agricultural Policies and Programs" by Willard W. Cochrane, Director, Agricultural Economics, USDA, the Conference on Goals and Values in American Agriculture, Iowa State Univ., Ames, Iowa, February 26, 1963.

major policy issues, and by and large, people have resolved them through a downward revision of the relatively heavy weights previously assigned to historic enterprise beliefs. But how do individuals and major population groups vary with respect to the relative weights they attach to these beliefs? Which weights tend to be revised most in show-down conflicts? As these questions took shape in my mind, I was a bit pessimistic as to whether we could hope that the behavioral sciences could ever be of much help on this knotty problem.

Then came the massive labors of McClelland and associates. Not only did they measure the level of the drive to excel in all employments at different points in time among 40 contemporary cultures and numerous past societies, but they went on to show in quantitative fashion that persons with a high level of this drive are the ones with precisely the specific personality traits required for excellent performance of the entrepreneurial role. This is a great achievement. I am not sure that it has a parallel even in the physical sciences.

I was especially impressed because, as previously explained, what McClelland calls "the achievement motive" is what we have long called our national sense of commitment to proficient work as the badge of superior ability and character.

Yet, measuring the level of this single motivation among different groups, would not take us to first base on any specific policy problem. For any such problem involves at least two belief and value presuppositions. Without at least this many, there can be no value conflict. But as McClelland points out, precisely the same method used:

> ...for deriving the n Achievement measure can be applied to measuring...any other motive that an experimenter can demonstrate influences fantasy in regular and predictable ways. 79/

I do not know whether all belief and value presuppositions that influence policy struggles can also be experimentally demonstrated to "influence fantasy in regular and predictable ways." We do know that the need or drive for power has been so demonstrated; so has the need for group affiliation. These achievements encourage us to feel that measurement of psychological variables will some day provide us with reasonably accurate figures on the relative weights which at given times different individuals and population groups ascribe to their various motives (needs, beliefs, or whatever other term one prefers here).

That would be a great achievement, and conceptually speaking, I think it is quite possible. But the larger fact remains that even this achievement could not even reach inside the door of any policy problem. For the very meaning of such problems is that, at least in some measure, changing conditions of living and making a living have destroyed the relative weights which people have hitherto assigned to their various belief and value presuppositions. (Otherwise, they would experience no conflicting beliefs and values). In this situation, they are at least in some degree baffled, confused, and even bewildered, without clear idea or settled conviction as to what action is right or what their duty is. And they get out of this fix only as they somehow or other reach a decision as to what new relative weights to assign their various beliefs and correlative ways of living and making a living.

79/ The Achieving Society, p. 43.

What is the nature of the process through which they reach such decisions? Here is the dark continent of psychological variables which the forward march of the behavioral sciences has not pierced. Yet, so marked has been the progress of these disciplines in field of motivations during the last 25 years that we are led to feel that this continent will not remain forever dark. Yesterday the behavioral sciences only crept. Today they crawl. Tomorrow they walk. So, speaking from the standpoint of one who has long made his living as a participant in policy struggles, the preparation of this paper has been an encouraging experience. The skies have cleared a bit and there are streaks of light along the edges of the horizon.

Discussion on the John Brewster Paper

Recorded by

John Sjo
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After completing his formal presentation Dr. Brewster discussed several points raised by participants.

Earl Heady said he doubted the association of achievement with a strong desire of doing well in any task undertaken regardless of its importance. He asked whether Dr. Brewster wasn't saying the innovator was a conformist rather than a revolter against conformity?

Dr. Brewster answered: "No! Quite the contrary. It was not intended to leave the impression that innovators are conformists. It was intended rather to impress that an innovator becomes proficient in his way of life. The innovating entrepreneur becomes proficient in risk taking, risk taking not in a gambling sense, but in taking the best information, even if incomplete, to apply to situations to turn them to his own advantage.

An innovator is one who finds new and more proficient ways to do tasks, even such simple tasks as a child's bed making. In this way the child learns to become proficient in self care which will carry over into later management functions. He develops reliance on self on what ought or ought not be done."

Ray Schultz commented that the Heady question would have been valid if the concept of the recognition motive were used rather than the concept of the achievement motive.

Brewster responded, "McClelland's book deals with both motives. What others think of one is a powerful influence. For example, McCormick was an odd child who preferred tinkering in the farm shop to going out into the fields. In the short run this brought ridicule upon him, but he had a great trust in himself that he could accomplish achievements in the long run that would bring lifelong approbation, therefore he was able to disregard the short run attitude of others.

A part of the value system of the U. S. includes recognition of the worth of an individual who has the guts to stick to his goals. Such fortitude is rewarded by approval from associates. Such approval is quite the opposite of the short run continuous recognition received by the individual who substitutes fitting into his group (the man in a grey flannel suit) for a trust in being able to achieve his long run goals. Even the slave receives recognition for proficiency in carrying out his subservant role."

Jim Hildreth asked if achievement today is accomplished by being the organization type man.

Brewster commented, "An individual to receive recognition for achievement must be able to create a favorable image for his peers. He needs to be in harmony, in balance, with his group. Then he is a desirable person to the group. Achievement may be measured by his proficiency in accomplishing the prescribed ways of his group."

Gordon Ball asked Brewster to demonstrate the relationship between achievement and managerial ability.

Brewster replied, "I cannot do that today. McClelland gives the components of entrepreneurship, but I have not yet studied this thoroughly enough to answer.

McClelland's study determined the level of achievement of various cultural groups and nations over time by cross-cultural studies of literature. The achievement images given in a sample of literature from the culture were counted. The number of images per 100 lines of literature reviewed gave an achievement index. It was found the higher the achievement image count, the higher the level of economic growth. Economic spurts were preceded by 50 years of increase in the achievement index. Economic slowing was preceded by a decline in the achievement index.

Individual characteristics basic to development of the achievement motive can be learned, but how? Perhaps this can be done through child rearing practices."

Neilson asked what lies behind individual motives and why are there differences among individuals.

Brewster: "I have a strong faith that we can crash through the barrier to understanding the entrepreneurial components. Can we not identify the characteristics in farm children that are necessary for them to become good entrepreneurs?

Child rearing practices affecting children's development of an achievement motive include:

1. The level of expectations of parents for the child's achievements.

2. The reaction (evaluation of the child) of parents to the child's acts.

3. The warmth or affectional response of parents to the child's successes (approvals vs. rejections).

Need a balance among all three. If one is out of balance the achievement motive may not be produced. For example, if the parent tends to react to a child's acts by always giving instruction for how the child should have done the act, the child may develop into an adult that needs a boss to tell him what to do."

Jim Hildreth commented that entrepreneurship and supervisory skills are not the same, therefore supervision has not been included in the discussion thus far. He continued by inquiring if there is not a need for people who are good communicators (supervisors) and are not the skilled supervisors those who have the approval of the group.

Brewster replied, "One of the functions of the entrepreneur is to identify supervisory skill in employees. At this time I have not made much progress in studying this function."

Engene raised several questions concerning the response diagram presented by Brewster. 1/ "C represented a concept of the kind of person an individual is. Is this the concept of a cultural group or of a single individual? Is C the same for all people or does C vary from individual to individual?

1/ See page 15 for Brewster's presentation of the diagram.

Is there a basic postulate here? Is life worthwhile for the individual when he really is what the concept of him is? Does this not affect our concept of management?"

Brewster: "A concept of management varies greatly among societies." Managerial success in Greece, a master-servant type of culture, was not associated with fashioning material goods and services since this activity rested with the servants. Today we find managerial success in the U. S. associated with such commercial activities as shunned by the Greek managers.

Sam Engene inquired how recognition of needs affected economic development.

Brewster: "Under our set of values, a strong profit motive, the need for more money creates a desire among individuals to produce more products. This is not true in some countries. Innovators and builders usually receive the highest esteem of society in the U. S., and profits are prima facie evidence of the individual being an innovator and builder, thus profits are incentives for achievement.

Recognition must be given to the fact that not all people in all places wish to achieve. There are great differences in the strength of the achievement motivations among individuals. Static cultures do not have a strong achievement motive.

Conditions for precipitating economic growth are not handled very successfully by McClelland. He seems to be a long way from explaining application of his theories."

Heady asked if Brewster's discussion of the nature of achievement was not closely related to indifference curve analyses and are not the economists presently handling the same problem somewhat more abstractly.

Brewster stated, "I am not very qualified to answer. But it seems the principles of maximization are applicable."

CRITERIA OF SUCCESSFUL MANAGERIAL PERFORMANCE

by

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Within the professional lifetimes of most of us, the strategy of the utilization of industrial psychology in industry and commerce has undergone a profound change. It was not so very long ago that industrial pscyhologists were functionally limited to serving as a kind of technical adjunct to the Personnel Department: polishing and patching up various personnel techniques such as the employment interview or the merit rating plan. Increasingly, however, industrial psychologists are being asked to help in the design and redesign of the very fabric of the organization--that system of goal-directed relationships by which men and managers work. Management, labor, and society at large seem to have some hope that industrial psychology can contribute at the policy level to the design of productive systems and enterprises in a way that will further both their economic and psychological missions.

But in meeting this challenge, what is the master plan or blueprint that should be used in designing these organizations and work systems to realize the optimal level of effectiveness of performance? What theory of human behavior should be used to guide both research and counsel in the organizational setting? This is the question to which industrial psychologists are now addressing themselves. This is the question which will require much more thought and research. From the evidence at hand it appears that there is no one concept or strategy of managerial leadership and work organization that is unequivocally superior to others in terms of results achieved. In fact, there has been little agreement on criteria of effectiveness.

I would like to suggest for your consideration a general approach which has seemingly been lacking or overlooked in organizational studies but which has proven helpful in our search for criteria of managerial effectiveness. The whole of my remarks are based on the use of managerial performance in the face of reality as the criterion of effectiveness.

Let me clear up the terms.

To take a simple psychological illustration, we can predict that if a person fails to reckon (be aware and account for) with moving forces as automobiles on Michigan Avenue here in Chicago, he will suffer severe consequences. In another context, if we fail to reckon (be aware and respond to) the limits of our university or job assignment, sometimes described as publish or perish, we do perish, at least professionally. In a more total context, if we no longer recognize ourselves in the mirror as males, husbands, fathers, bread-winners, social scientists, we can predict apprehension and possibly commitment for treatment.

All of these illustrations point up one central factor--REALITY. It is reality which keeps us within this range of predictable behavior which is acceptable, appropriate, and utilitarian in our society. In the study of normal and abnormal human behavior, the response to REALITY proves to be the criterion which differentiates the range and the position within the range of operating effectiveness.

If the individual is not aware of reality, does not recognize it, does not define and determine it, its characteristics, and its limits, he can scarcely be expected to effectively respond to it, adapt to it, control it, or use and exploit it.

For example, one of the simplest yet critical tests of reality awareness is to ask the mental patient: what day of the week it is; what month it is; what date it is?

Briefly stated, we are suggesting that the criterion or criteria of effectiveness of the individual, individual manager, or organization are determined by the adequacy of their response to their respective realities.

The engineering feat of sending a man orbiting in space three or six times is the epitomy of integrating innumerable and complex realities. We all recall the anxiety of the first United States space flight, upon hearing of the delays, postponements, count downs--holds--and then 5, 4, 3, 2, 1 blast off. But, the effectiveness was judged around the world by the PERFORMANCE of 3 or 6 orbits and a safe recovery.

The ignorance of any one of the multitude of factors, the failure to test the limits on any of the parts or operations, or the lack of integration of even the smallest component or condition--the reality of the astronaut--would have resulted in failure, or at least less than satisfactory performance. The effective performance demanded the awareness, identification, confronting (a process of eliminating the irrelevant and strengthening the critical, i.e., thrust) and integration of all REALITY into an effective solution.

Now, in spite of the fact that it is apparently no longer true that what goes up has to come down, let us "come down" to our central interest today, the farm manager and his reality.

"The greens, golds, purples and rich browns had never seemed more luxuriant than this fall. They splashed across the plains and hills in the patchwork squares and furrowed curlicues. To harvest their bounty, farmers arose at dawn, gulped down hot breakfasts, climbed onto their great machines and roared onto the fields. Hour after hour they worked, often far into the night. Day after day they labored, until the land was cleared of all but stubble. Then they returned to the fields to prepare them for spring sowing." Vivid reality as seen by the TIME correspondent.

"These were the sights and the sounds--and the results were spectacular. Despite the shackles of Government control, the American farmer in 1962 has broken through to a new per-acre production record. Kansas wheat ran to an average of 23.5 bushels as against a 1951-60 mark of 19.1 bushels. North Dakota wheat yielded 28.7 bushels more than twice last year's, and nearly double the ten-year average. Iowa corn came in at 76 bushels per acre, well above the ten-year average of 57.2 bushels. Thanks to modern farm technology, the total harvest was wrought from 288 million acres of cropland--10 million fewer than last year. By 1980, when the United States will have 250 million mouths to feed, the farmer will be able to produce all the food and fiber necessary for domestic and export use on only 238 million acres." Obvious performance of the past, present, and future!

"Beneath this vast, smothering blanket is the American farmer--still an individualist. He remains rooted to the earth, bound for good or ill to the

wind and the rain, the snow and the sun. He is still conservative, somewhat distrustful of the outsider, does much of his buying by mail, and throws his nickels around as if they were manhole covers. He complains endlessly about his lot, but he would not trade with anyone. He is likely to own a "Waterworks" (indoor plumbing), a deep freeze, a piano, television and hi-fi sets, and a bank account for his children's education. He hooks a radio onto his tractor to keep up with the news as he plows, joins the P.T.A. and the Chamber of Commerce." This running account suggests some of the reality that surrounds the United States farm manager.

It is obvious that the realities are different--maybe even incongruent for an astronaut and a farm manager; or for a farm manager of grain and for a farm manager of livestock; or for a farm manager in Oregon and a farm manager in Illinois.

Or the variance in realities may be as apparently minimal as the command pilots of two jet aircraft traveling non-stop simultaneously from Chicago to Los Angeles. But the criterion of effectiveness for each and all of them is PERFORMANCE as measured by their response to the respective realities.

Pursuing for a moment Argyris' suggestion, this effectiveness or performance is as appropriate for the individual who may be an astronaut or a farm manager, as for the organization which may be General Electric or a guided missile team. He points out a concern for efficiency being appropriate in achieving effectiveness or performance. For example, in the human organism, if the manager achieves--becomes president of the organization or operates the largest farm combine--but also contracts ulcers in the process, he would not be considered efficient in becoming effective. Likewise, the organization if it achieves the rating of one of FORTUNE's top fifty or five hundred industrial concerns, but indulges in price fixing in achieving the rating or exploits non-existent fertilizer storage facilities, our mores question the organization's efficiency in becoming effective. However, this efficiency seems to us to suggest only another part of the reality which the individual manager or organization cannot afford to ignore.

Let us relate the criterion of effectiveness, PERFORMANCE, to reality and to the individual manager. Too often we have started the study or concern with the individual's or organization's characteristics:

> initiative, judgment, education, experience, dissonance, etc.
> manufacturing or services, private or public, utility or manufacturing, defense or consumer oriented, monopolistic, etc.

Or, instead of determining the fact that there has been or has not been performance, there has been an emphasis on a description of the performance. The structure of factors that described on-the-job performance is likely to be more complex than that of factors that describe manual test performance. McQuitty, Wrigley and Gaier found 23 factors to describe the performance of highly skilled and poorly skilled aircraft maintenance mechanics. The six most clearly defined factors were interest in aircraft maintenance, sense of responsibility, willingness to work, weakness of character, lack of initiative, and failure to use knowledge effectively. McCormick and North isolated six factors that describe performance in 119 enlisted naval jobs. These factors are work knowledge required, guidance and supervision required, inherent job hazard, physical effort required, potential combat hazards, and responsibility for the safety of others.

Many other descriptions of performance could be noted. However, it seems that these descriptions do two things: 1) indicate WHY there has or has not been

performance and 2) identify the reality of the situation. The inferred relationship between 2) the reality and 1) the reasons for the performance is the awareness of the reality and its demands for relevant ability and skill in coping with the reality.

In Stogdill's discussion of the dimensions of group performance he quotes Hemphill's development of a set of scales for measuring fourteen dimensions of social groups. The dimensions are size, viscidity, homogeneity, flexibility, permeability, polarization, stability, intimacy, autonomy, control, potency, hedonic tone, participation and dependence. The scales have proved their utility in the study of a wide variety of groups. A different set of dimensions was arrived at by Cattell as a result of his factor analytic studies of experimental groups. He isolated syntality dimensions (characteristics of the group as an acting entity), structural dimensions (status, communication channels, etc.) and population dimensions (sex, average age, intelligence, etc.) of the members. In contrasting the solutions achieved by Hemphill and Cattell, it is apparent that groups can be studied from a variety of viewpoints and can be described at different levels of generality.

Except for population characteristics and group size, the dimensions proposed by Hemphill and Cattell may be regarded as representing complex behavior that develop as a RESULT of the PERFORMANCES, interactions and expectations of the members of the group.

It is the statement of "develop as a result of the performance" that is questioned. Isn't it true that the performance is the result of these dimensions being part of the reality?

Instead of making lists describing the performance or the results, important as they may be, it would seem more appropriate to isolate and agree on the criterion of effectiveness being achievement or PERFORMANCE. Then, we could determine and declare clearly whether we do or we do not have performance.

Let us put some of these ideas in the context of General Motors, as stated in the December Issue of FORBES from the article "Getting Ahead at General Motors". "Unfashionable as it may sound, all you have to do is deliver. But the standards are tough and the demands are rough. Here is how the world's biggest manufacturer keeps its executive ranks staffed with top performing men.

"In the unique blend of centralization and decentralization at General Motors, there run the lines of control over some 600,000 employees laboring in 169 plants and over 1,000 offices right across the Free World.

"General Motors, however, is not simply BIG. It is also SMART. Success has not bred complacency nor its size clumsiness. In what has been an exceptionally strong year for the auto industry in general, General Motors in particular has done superably in 1962. Through October, its Chevrolets, Pontiacs, Oldsmobiles, Buicks, and Cadillacs combined accounted for more than 52% of all new car registrations in the United States. Not since the early 1920's, when nearly six out of every ten new cars sold was a black Model T Ford, has one auto company enjoyed so big a share of the market. With no sign of a letup last month, General Motors was well on its way to setting a new record in sales (beating 1960's 12.7 billion) and a new record in after-tax profits (beating 1955's 1.2 billion).

"Clearly, there is a lesson in the way General Motors is run. Through understanding General Motors' management philosophy the investigator can gain new insight in what makes one corporation successful and another merely so-so. And rare would be the corporate executive who could fail to learn more about his own job from understanding how General Motors ticks.

"Management, of course, consists of people. But what General Motors has done is to create a SYSTEM that assures it of a continuing supply of the right kind of talent. At that point, the system stands back and the men take over. For General Motors is no rigid bureaucracy. It is a shrewd blend of men and system. The whole corporate setup is carefully balanced to reward talent, sidetrack mediocrity and produce sufficient opportunity to prevent able men from being dead-ended by focusing on PERFORMANCE.

"It is this blend of realistic planning and practicality that put General Motors where it is today. It is not simply that General Motors has the most efficient plants. Several competitors here and in Europe can make cars about as cheaply. Nor did General Motors have any head start. Ford was for a long time much bigger. And while it is true that since the 1920's General Motors has always been well-heeled, it is also true that ample capital has rarely in itself guaranteed corporate success: Consider the recent troubles of competitor Chrysler and of such rich old-line United States companies as Montgomery Ward.

"Who--and what--decides which General Motors men shall get to the top? At General Motors they will tell you that the only real criterion is ability. At this point, the ordinarily skeptical reader will probably snicker. It is fashionable today to be cynical about the ingredients of success, to look for old school ties, family relationships or some particular gift for conformity to explain why one man gets ahead of another. Anyhow, what is ABILITY, really?

"But the patent fact about General Motors is that, management ability aside, there is no single quality common to the company's top men. They are cut from many kinds of cloth. General Motors may have organization MEN; it has no organization MAN.

".....In the face of all kinds of evidence, outsiders and insiders alike agree that demonstrating competence on the job--PERFORMANCE--is in fact the only sure way for a man to move ahead at General Motors. 'The primary basis for promotion around here,' says Louis G. Seaton, General Motors' Vice President in charge of the personnel staff, 'is proven performance on the job.'"

Sloan expressed this concept of management as follows: "Divide the enterprise into as many parts as can consistently be done, place in charge of each part the most capable executive that can be found. . . . The system, in other words, (the reality) selects the best men. They take it from there with a minimum of rule book and minimum of supervision."

Such a climate differs sharply from the atmosphere at Chrysler in other days, when many middle-and upper-level executives were frustrated because they were seldom given the responsibility they were capable of handling. Only recently has Chrysler's new chairman, George Love, brought the same philosophy to the No. Three automaker, giving able men within Chrysler every chance to prove themselves.

Doing things this way for 40 years now, General Motors has rarely been hard up for executive talent. Not the least of Chrysler's recent troubles, in sharp contrast, has been a scarcity of top flight managers in the middle and upper levels--a scarcity that led to a number of feelers from Chrysler to General Motors men over the past few years.

Researchers are generally discouraged from their studies of a criterion of performance effectiveness because of the dynamics of the individual or organization, because of the number and complexity of the variables, and because of the impracticality of holding any conditions constant over time for purely research purposes.

However, inasmuch as evaluation and appraisal of effectiveness is continuously being indulged in, it seems appropriate to begin with the current reality to gain some insight into what was being done and what was available before any program of change or alteration is suggested for study.

In any individual or organization there are a great number, variety, and complexity of operations. By operations is meant all the actions and interactions which maintain the structure and accomplish the purposes of an individual or an organization.

We have few organizations whose reality is as complex and dynamic as Du Pont. A brief review of its actions and interactions suggest the structure and reveal the purposes of the managers and organization. Du Pont is now setting out on what may be thought of as the fourth phase in its long history. The first phase lasted roughly through its first century. Du Pont then was based wholly on gunpowder and explosives becoming the biggest explosives combine of its day. The second phase roughly from 1910 to 1930 was marked by diversification through acquisition and merger. The third phase began toward the end of the twenties when Du Pont initiated a broad, farsighted program in basic research, signaling the end of its growth through acquisition and beginning of growth through internal development. The new phase of development is likely to be a period of intensive consolidation and intense competition.

Today's reality is defined: There is no doubt Du Pont is operating in a business climate far more competitive than any it has seen in the past. Whereas only a decade ago Du Pont was the only major chemical producer of all-synthetic textile fibers, today there are seven companies making nylon yarn (one of them Chemstrand Corporation was inducted into the business by Du Pont itself), four others making polyester fibers, and six others in acrylics and modified acrylics --all major new fibers pioneered by Du Pont. A decade ago Du Pont and Union Carbide were the pioneer United States producers of polyethylene, the biggest postwar plastic; today there are over twenty companies in the business. Du Pont will continue to come up with new products, of course. But the long lead time on which it could count to cash in on such products is dwindling, as more competitors gain the research resources to move in fast on anything new and drive prices down. And while opportunities to exploit new products are shrinking, the cost of discovering them is rising. Lammot Copeland, now president, sums up the new climate and situation as one in which it's getting harder to make a dollar--but one in which Du Pont shows no diminishing talent for making it--maintaining effective performance.

Always ready to recognize the facts of life, Du Pont has been wheeling and changing with the times. But the corporation's basic institutions seem

admirably suited to the stresses of the new era. In its tradition of management, under which presidents have resigned at sixty or earlier and executive replacements are ready in depth all down the line, Du Pont ensures great flexibility and resourcefulness. Around the new president is an executive committee that has been almost completely renewed since 1950, with the last of its older members, Henry B. Du Pont, due to retire next summer.

(Their awareness of reality, their prolongation of Mr. Greenewalt's and Mr. Carpenter's terms as president and chairman, to cover the controversial issue of the disposition of the General Motors Stock.)

The operating departments have risen in number from 10 to 12 in the same period, and with only two exceptions, they have a fresh set of general managers.

The elevation of the new president brings no great change, for it is the Executive Committee that really runs Du Pont. Indeed, Lammot Copeland who had been a member of the Executive Committee since 1959, participated in making most of the policies that he now implements as the Committee's Chairman. The Committee operates in a way that is deliberative, democratic, and almost timeless and unique to Du Pont. The President as Chairman of the Executive Committee has only one vote on this Committee and he is surrounded by members who are moved up from the operating departments, engineering and research. All but one on the present committee holds a degree in chemistry or engineering. They bring to the task technical or research-oriented experiences and backgrounds tested in reality of operations. Each continues to sit as adviser to the departments in some broad area, such as research, engineering, finance or sales, but none can issue orders at the operational level to any department. The operating departments run their own business (because they know the situation best).

And that is Du Pont as it has long continued to run.

"Growth per se is meaningless," says Crawford Greenewalt. "Rather, it's a question of soundness and worth. And for Du Pont soundness means hewing to the line of a 10% return on investment."

Now, if return on investment and profit are accepted as the goal of industry, it should be a simple matter to compare organizations, or one organization over time, by means of a profit index and thus assess their effectiveness. Closer examination, however, suggests that short-run profit figures can be misleading and comparability of profit figures over organizations of different kinds and sizes is difficult to achieve.

Using profit as the sole criterion of effectiveness may gloss over many variables. It seems to ignore the complexity of the situation or the problem. Various techniques have been developed to parcel out the effect of size on profitability (Albery, 1954; Bartlett, 1952).

But a somewhat similar problem exists when we try to use productivity or volume as the sole criterion of effectiveness. Both large and small organizations can maintain a high rate of productivity while slipping deeper and deeper into financial deficit. Also our culture has become wary of organizations which seem to be gaining too large a share of the market. Anti-trust legislation is an expression of this feeling.

Drucker suggests the need for a number of criteria, but does not consider the relationship among them nor how to select them. Dent cites that profit is

still considered the most important purpose of industry. No one measure of organizational performance such as profit or productivity seems entirely satisfactory. These approaches to the problem and that taken by Geouropoulos and Tannenbaum seem to be a sort of "organization without people" approach. The trouble lies in failure to consider the entire situation. As Bennis (1959) has said, either we have "people without organizations" or "organizations without people." What is needed is an empirical rather than conceptual approach involving the organization as a whole, its total resources of consumer acceptance, market advantage, physical facilities of buildings, equipment, utilities, materials, supplies, organization structure--and all the resources of manpower in its reality setting which will allow the formulation of a theory of organizations inductively from the data. This is a large order.

A beginning must be made somewhere. That beginning might best be made with measures of organizational "output". Measures of "output" are of interest for their own sake, but they are also of interest as what seems to be the only way to get at the "process" which goes on in the organization to produce the "outputs". As we begin to understand the relationships among the "output" variables, perhaps we can work back through them toward an understanding of the "process." When we know more about the "process" in an organization, we will be in a better position to determine what combination of "inputs" will lead to effective and efficient "process" and, finally to desired "outputs".

With this primary concern for the total reality of the manager and organization we might specify them as Stogdill:

Member Inputs	Mediating Variables		Group Outputs
Behavior	Formal Structure	Role Structure	Achievement
Performance	Functions	Responsibility	Productivity
Interaction	Status	Authority	Morale
Expectation	Purpose	Operations	Integration
	Norms		

Following is a list of the operational variables in an industrial organization. These twenty-four measures of the performance were chosen on the basis of utility and availability.

1. Operating profit
2. Total units produced
3. Sales of units under contract
4. Sales dollars on the above units
5. Sales of units under the firm's own name
6. Sales dollars on the above units
7. Units shipped by the entire industry
8. Man hours of direct labor
9. Units produced/man hours of direct labor
10. Number of direct labor employees
11. Number of indirect labor employees
12. Number of salaried employees
13. Company units/total units produced (a measure of the difficulty of production. Company units are the most complex brand-name product produced.)
14. Actual production scheduled production

15. Percent of bonus paid
16. Material variance (variation of material costs around the amount allowed per unit)
17. Direct labor variance (variation of labor costs around the amount allowed per unit)
18. Number of grievances filed
19. Bids for jobs that become available on the basis of seniority
20. Factory overhead variance (variation in overhead costs--including indirect labor--around the amount allowed per unit)
21. Bumps (workers' transfers on the basis of seniority as a result of job eliminations)
22. Number of people who actually change jobs on the basis of seniority as a result of eliminated jobs
23. Average hourly wage
24. Average hourly wage with bonus

When one is confronted by these variables of inputs, outputs, and process, what is needed is a model. Perhaps the issue will be made clearer if it is acknowledged that the many theories of management of the theorists are essentially methods of CONTROLLING the variables. They are techniques of human motivation designed to control the individual and collective behaviors of people regarding these variables, and to direct them along desired paths. Viewed in this manner it becomes clear that control is not only a technique of organization, but strategies of controlling the reality variables is a necessary requirement of organization. Without these strategies, there is only the potential--only the independent behaviors of individuals and forces. The random, uncoordinated behavior of an aggregate of individuals or resources which had nothing in common but physical proximity, would accomplish little.

Control can be understood as a neutral term and does not necessarily represent tyranny, but in a democratic society we have tended to be uncomfortable with the concept and have tempered it with ideas like "democratic leadership". As Blau points out, this term contains a paradox within itself. Democracy, as this society has conceived it, denotes rule from below. One person's supervision of another cannot be democratic. Blau goes on to assert that "tolerant" management practices, as they are utilized in human relations approaches, in contrast to disciplinarian ones, are neither democratic nor an indication that controlling power has been surrendered. They are simply one strategy for establishing effective control over the behavior of subordinates and all the resources (Blau 1956).

So, the management in all organizations must control; it has no choice if it is to keep the organization together. The only question is which method to use to gain optimum effectiveness. The answer to this question will provide the ultimate answer to the problem of organization effectiveness.

But it is clear from all the evidence brought to bear on the problem that no one method of control can be shown to be totally effective. The evidence is that individual variability, individual differences in personality traits, group characteristics, kinds of task being carried out--and all the resource factors of the reality--interact with the characteristics of the management method to determine effectiveness of performance. In the final analysis, the effect of any method which is input into the system will not be felt until it has been mediated through the total organization and finally reaches a stage where the members perceive it. By that time it has become not a clearly

definable procedure, but rather, a set of stimuli which have been conditioned by, interacted with, interpreted through, and integrated into the total organization structure and process. It is obvious then, that management methods of control are unlikely to exert themselves according to simple rules along single dimensions of organizational behavior, but rather, by the time their full effect has been felt, may have a variety of effects depending upon a variety of conditions. These effects include not only productivity in the ordinary sense, but also other individual and collective behaviors which may or may not be related to productivity.

One approach to the problem of understanding the effects of control methods is suggested by Stogdill's work. It will be recalled that he defines "(group) achievement" as the totality of all the outcomes of the (group) process. This totality includes the dimensions of PRODUCTIVITY, INTEGRATION, and MORALE. In an attempt to operationalize his concepts Stogdill gives each of these terms a rather restricted meaning. Productivity is the achievement usually associated with output--a product or service, but theoretically it is defined as an accomplishment or a change of value in what was put into the process. Integration refers to the viability of the structure and operations. Evidences of low integration include griping, hostility, absenteeism, accidents and lack of coordination. Morale represents freedom from restraint in action toward a goal (and not "satisfaction" as the term is commonly used). Stogdill's hypothesis is supported by a number of factor analytic studies which indicated that the outcomes of group operations may be described in terms of goal direction (productivity), integration, and interaction facilitation (morale). Productivity, integration, and interaction facilitation (morale). Productivity, integration and morale are independent in the sense that they do not "cause" each other to vary, but rather depend upon the inputs and process. The nature of the balance between the elements may be defined by the following hypotheses: productivity and morale are positively related; morale may be related either positively or negatively to integration; integration and productivity are negatively related; morale, productivity and integration may be positively related when the group is strongly motivated in striving toward goal achievement, or when motivation is very low; member satisfaction exerts its primary effect upon group integration rather than upon productivity or morale.

Although the executive in the organization is charged with "optimizing" productivity, little concern is usually given to morale and integration, two equally important aspects of group achievement.

Stogdill's view, it should be noted, is somewhat different than that generally subscribed to. Other authors have suggested that the major dimensions of organization achievement involve economic output and the rewards or satisfactions accruing to the members. By positing a more complicated view Stogdill is able to account for what have been seen as inconsistencies in the relationships between dimensions of organization activity.

If Stogdill's argument is valid, one of the major reasons for lack of clear-cut results in the research and application of control methods is obvious. The criterion problem has been misstated and misunderstood. The evaluation of individual training may involve fairly well-defined criteria, but the evaluation of attempts to change group or organization performance may be an entirely different matter. Someone in a position of authority in a group (county agent, God, government) or sub-group introduces into the system a set of actions based on hypotheses about how these inputs will affect the behavior of the individuals

and how, in turn, the behavior of the individuals will affect the over-all performance of the group. How are the effects of the control methods, the inputs, evaluated? (reality testing--conceptual projection). The observer may choose some variable indicative of the frame of mind of the members--satisfaction, morale, motivation, loyalty, goal-orientation, etc. He then must take measures which will discriminate between levels of the variable. These may include responses on attitude scales, level of turnover, grievances, absenteeism, communication, etc. Or, the investigator may choose to study productivity. In that case he will probably be interested in efficiency, quality, financial success, and level of output. As indicators of these he will probably use a variety of bookkeeping and accounting figures which include profit, volume, etc. Or, lacking the necessary information about people or production, he may simply ask knowledgeable individuals in the organization to make ratings. He then subjectively or empirically correlates the inputs with his choice of outputs and draws conclusions about principles of management control. Results are functions not only of the method used, the way it is implemented, and the variable or variables chosen as indicators of group performance but also of the state or conditions existing in the organization at the time. The administrator must ask the question, "Change from what to what?"

Without isolating some general factors or dimensions which can be agreed upon as valid indicators of aspects of organizational performance, the chances of clarifying the confusing array of hypotheses about the structure and human relations strategies seem small. Terms like irrationality, role, authority, leadership, dysfunction, sanction, informal organization, morale, adjustment, satisfaction, etc., may be useful conceptual tools, but they are of small value, if not a hindrance, in attempting to transfer the dynamic workings of an organization into objective and measurable data. It may well be that this superstructure of theoretical verbiage often obscures what is still the crucial problem in organization research: definition and measurement of the dimensions of group performance. It is all very well to hypothesize about the effects of various attitudinal and structural variables upon effectiveness, but a theory can never be empirically validated unless effectiveness as well as attitude and structure can be objectively specified and measured. As Stogdill points out, "Although a theory provides a set of concepts and hypotheses that may be used for analytical purposes, neither the theory nor the techniques derived from it can yield a solution to a problem until analytical operations have been performed." (1959)

Mason Haire concurs about the need --

"In terms of level of abstraction, the field of organization theory is in a rather peculiar state. We have a group of relatively vigorous models of considerable formal elegance, on the one hand, from the mathematical economists and decision theorists. On the other hand, we have some brilliant, penetrating insights from the naturalistic observations of people like Whyte, Argyris, and Selznik. Between these, however, there is a remarkable gap...We do not have much in the way of systematic behavioral data collected for the purpose of testing hypotheses or quantifying variables used in models...." (1959)

We are a long way from the ability to prescribe a formalized strategy of control. It is true, however, that successful managers probably follow strategies as a matter of course. These strategies may be similar to the "action programs" described by March and Simon. They are developed by trial and error and by "feel". But, as March and Simon point out, these strategies are usually

considerably less than optimum because of the individual's cognitive limits, the inadequacy of information, and procedural inflexibility. Also, they may be based on invalid assumptions about motivation. Were these strategies based on an understanding of the consequent interaction between particular methods and specific organizational circumstances, both present and future, they might well be more successful in achieving the criteria of over-all performance established by management.

In summary, a variety of techniques based on observation, theories, and empirical data have been proposed as means of increasing the total effectiveness of organizations. These approaches may be logically divided into two categories, one of which advocates structuring the organization as a whole, its lines of authority, communication, responsibility, etc., and the other advocating behavior toward the reality of the situation in a manner that will improve their relationship to the resources and organization and release the potential of their collective individual behaviors and forces. The evidence regarding the comparative values of these approaches and the many methods they subsume is not only meager but unclear.

This situation has provided the theorist as well as the manager no means of evaluating the effects of particular methods under specified conditions. If some insight can be gained into the variety of dimensions which describe organization behavior it may then be possible to relate these descriptive dimensions to more specific conditions within the organization and to test the effectiveness of particular techniques of control in changing these conditions.

It is here also suggested that one reason for this situation is that data of the sort which would enable the testing of hypotheses derived from organization theories have not been systematically gathered by organizations, and thus have not been available for use. Part of the reason for this probably lies in the fact that theorists have not utilized operationally definable variables in their theories. Another reason may be due to the lack of appreciation on the part of managers and administrators of the practical value of such data in improving the effectiveness of their own performance.

Up to this point we have discussed large corporations. Our consulting and research study has been concentrated with much smaller organizations--with 2,500 employees being the largest employed work force.

However, we believe the operational variables of control are the same regardless of the size and regardless of the industry. We would like to discuss in detail several of the most critical factors.

The first factor is the awareness of reality, the totality of the situation as it is represented by all the resources, all the inputs, outputs, and processes. This factor focuses on the manager's assessment of the reality.

Recently, one of our largest manufacturers of industrial electrical controls, had defined a real need to make their sales organization more effective. They had spent many thousands of dollars on developing a teaching machine program for their thousand salesmen who are all graduate engineers. Most of the initial time and money had been spent on developing the technical vocabulary to introduce into the machine. When we were approached on suggestions as to how to proceed from this vocabulary point to the demands of the job, we asked the simplest of questions of the job assignment and any data on the criterion

of effectiveness of the salesmen. Their answers were vague generalities and hunches. When pressed for the availability of data, they agreed to look for the operational data and to their surprise they discovered they had considerable relevant facts which would be invaluable in developing the necessary program and in motivating the sales organization to use any training program. They had not assessed the reality, its limits or demands.

Let us take a very different experience which brings us closer to the individual manager. We are all familiar with the complexities of the command pilot cockpit of the jet aircraft and some of us have seen the intricacies as well as confinement of the space capsule. We see this as quite a contrast to the farm manager's reality and yet it has striking similarities. The pilot has an estimated time of departure and an estimated time of arrival. His cockpit reality dials indicate his ground speed, air speed, his power settings, tail wind, head wind. On an overcast day, as he progresses from his point of departure to his destination he may have no visual cues or landmarks, such as terrain, cities, stars, etc. All he has is a series of symbols. He must assess these symbols and resolve them into an adequate solution so that he arrives at his destination effectively. You may say, this procedure is obvious, and yet Von Lennop finds this a critical factor in the selection of most of the European airline pilots. When there are critical factors (testing the limits) of weather, altitudes, wind currents, alternate destinations, use of navigational aids and landing-assistance devices, this assessment and resolution into solutions becomes vital in determining effective performance.

I am sure it is more apparent to you men who are working closely in this area that the farm manager has a series of symbols--futures, weather, growth periods, capital investments and their returns on investment, government controls. All of these he must be able to assess and resolve into effective solutions. There are the obvious qualities of timing, importance, relevance, and relationships which are determinant in assessing these reality symbols effectively.

It is like the simple "How Goes It Curve" that we used so religiously during the World War II in briefing and guiding the aircraft being ferried around the world. Their mechanical efficiency and their range was considerably limited at that time. So each hour the pilot sent back in code his position, his fuel consumption, his air speed, ground speed, power settings, whether he had tail or head winds and of what velocity. The critical position was the half-way point where he either had sufficient margin to proceed to his destination, or because of less than adequate performance to that point or because of increasingly adverse factors, such as head winds, on the route, he was forced to turn back. This practice demonstrates the continual need for assessment of the total reality, whether it is the physically perceptible variables or the symbolic representations of the variables.

It would seem the farmers have established many symbols of progress toward their goals, as corn is knee high by the Fourth of July. In a more sophisticated procedure the farmers are submitting cost data monthly to the Agriculture Extension Office at Michigan State University. It would be hoped the manager would comprehend these data and arrive at better solutions for his operation. It is suspected that the farmer routinely submits the report and does not analyze, evaluate or integrate its relevance on his own initiative or from the feed back report. This data when plotted would be one kind of symbolic representation of their operating reality.

Another example would be such an eminent person as Charles Eames, the outstanding designer of furniture, buildings, movies, etc. He was the first recipient of the famous Kauffman Award for Design in 1961. We might think that reality is a different set of variables or that assessment is less important for such an accomplished person. Two years ago he was asked by Mr. Watson of IBM to develop a comprehensive presentation of Mathematics for the Science and Industry Museum in Chicago. Mr. Eames is no mathematician, but he was convinced that there was genuine need because of the tremendous advances in science and particularly mathematics for a "kaleidoscopic view" of mathematics. In assessing these factors, he quickly decided that he could not accomplish the necessary knowledge, comprehension, or proficiency in mathematics, so he assessed the field to find the man or men most qualified. The University of California recommended them. He then employed them as consultants as he developed the conceptualization. He paid them a most handsome fee to, as it were, sit at their feet and learn. It was a complete reversal of position and roles--for a person who chats informally with Mr. Watson and others. This procedure was part of his assessment of the demands of the reality and the effective performance of this assignment was the first exhibition in the University of California's New Museum and also the IBM Exhibit for Business and Industry Museum here in Chicago.

How insistently and ingeniously does the farm manager identify the demands and problems of his operation and obtain and employ the best expertise and information available.

Mr. Eames was assigned the development and production of the movies which introduced the entire Science Exhibit at the Seattle World's Fair this past summer. It was the thought that this vast audience should sit down on the carpeted floor and see this multiple-screen pictorial view of Science so that they might better comprehend the individual and respective science displays and exhibits. Here again he utilized some of our most famous men of science for the content. But he developed the technique from his experience in setting up our multiple-screen panorama of America for the Moscow Exhibit in 1958. He had technology of filming, visual presentation of concepts, and the usual deadlines. To have seen his office literally strung with color film two weeks before April 21, 1962, the opening day of the Fair was alarming. Ten of the remaining days were demanded for processing. Reality demanded twenty hour days. The performance of the film was evidence of terrific assessment of reality of the occasion, the audience, the message, as well as the fulfillment of the physical production. This episode suggests a total involvement physically and mentally as the farmer, in seeking out the basic knowledge and most relevant materials to accomplish the job within the deadlines prescribed.

A year and a half ago when the Chicago O'Hare Airport was well underway but the interiors were not quite finalized, Mr. Eames was approached regarding his interest in developing a solution to the demands for seating in a terminal. He became convinced that the current solutions were not adequate. He began assessing, learning and testing the reality. He developed the modular seating which you see used through this heavily trafficed air terminal. The effectiveness of the accomplishment is suggested by the fact that he was requested to perform the same function for the recently inaugurated Dulles Airport in Washington.

As just one further indication of assessment of reality in the quality of timing, he has been assigned the design of the IBM building for the New York

Exposition of 1964. Because of the site being in a marsh area, the footings and understructure had to be completed this past June 1962 for the opening in 1964. It was accomplished so completely and effectively that the late Mr. Saarinen's Engineering Group have been able to take over and fulfill the concept to free him for other assignments.

A different reality confronted the military commanders in one Pacific Area during World War II. The loss of B-29's on the long flight from Saipan and Guam over to Japan and back was critical. The flight required maximum supply of gasoline and the pay-load was jelly bombs, mines, etc. The incidence of crack-ups on take-offs every thirty seconds was significant in itself. The procedure had been established to gain full altitude over Saipan and Guam and then proceed on mission. Upon assessment it was apparent that the altitude over Saipan or Guam was not necessary as they were not detectable by the radar devices available at that time. The consumption of fuel with full load in gaining altitude was exorbitant. The procedure called for low altitude for the majority of the distance and then assumption of altitude. The performance improved tremendously because there was a significantly increased margin of assurance of fuel for effective performance over the target and return to base.

One aspect of the assessment is the definition of the limits of the reality. This may be expressed as the number of alternatives that are available, or in the number of resources that are available. We have an organization that in 1958 was highly ineffective in earning money, return on the investment, quality and quantity of the product, realized income by all its members, professional development of all of its members. The reality dimensions were superimposed by the principal owner so that every facet was the old man's plan. By feeding back some of the "failure" criteria of customer non-acceptance, non-competitive costs and absence of profits, more data, more resources, and more alternatives became available. In August 1961, the president wrote this letter:

> "For the past weeks we have been studying the possibility of buying a small company that makes frames for mirrors. We are looking for a way to get additional kinds of frames, and also to have the facilities for making the frames we now use.
>
> "It is interesting to see this company and to study why it is for sale. Most of the production people are highly skilled woodworkers, molders, and finishers. They have long years of service; some of them have worked for the same company for over forty years. There is almost no office staff and very little supervision. The owner figures costs, designs, and sells. The mirror frames they make are recognized by the stores as among the best in the country. In spite of low overhead and fine product, the sales are going down each year, the company is continually losing money, and people with forty years seniority are usually working three days a week.
>
> "If we buy the business, we would hope to change this picture by having more salesmen working the country, by developing more efficient methods, by having a purchasing department and so on.
>
> "We would do this to strengthen our own company by increasing our sales of mirror frames and mirrors to go in them."

In January 1962, five months later, he wrote a letter explaining that intensive study and analysis proved this part of the business could provide only marginal returns on their investment and consequently was being sold advantageously. The company was buying the rights and facilities for a proven recent technological development. This reversal of position and action demanded critical assessment and redefinition of the limits of reality. It seems apparent that the farm manager's frame of reference could have been substituted for the mirror and frame company. With the changing agricultural industry, this constant awareness of shifting advantages must be capitalized on by the effective manager.

In an entirely different context of a leading Michigan chain store operation, the reality was defined so that it was highly improbable that a profit could be made in any of the twenty stores. The policy was established that the organization would sacrifice profits for a period of six or eight months to saturate the market and gain a strong position of customer awareness and acceptance. This position did not alter the need for performance or the criteria of effectiveness.

The next factor after awareness and definition of this reality, is the confrontation. This means the engagement, the testing, and particularly the challenging of its demands.

Mr. Jay Doblin, Director of the Institute of Design, Illinois Institute of Technology, makes an excellent point of this factor. "The architect is rarely interested in making the spaces work efficiently. He is far more concerned with ingenious structure and cliche aesthetics. The vast majority of the newest office buildings, either in the city or country, require all-day illumination even though glass-walled, because the bays are made too deep and the ceilings too low. Workers at the edges get too much light and require light control, while those in the center of the space get no light at all. In many cases, executive offices are lined along the windows, blocking more light. Too many commercial buildings with glass fenestration require brute heating and air conditioning to cope with the temperature variations because of the high heat losses and fantastic sun loading. Another annoying result is my pet hate--the fragile venetian blind employed to keep the light down for those edge offices or workers. The architect at once 'giveth and taketh' both light and comfort."

It seems to me the recent episode with Cuba and Russia was a classic illustration of confrontation of reality. The awareness, definition, and confrontation of basic differences in the Russian and the United States philosophy of government, state, economics, and way of life, of the build up for offensive rather than defensive purposes, the exploitation of timing for Russian purposes solely, were a few of the more apparent factors. The diplomatic, military, and economic confrontation crystallized the total reality for ourselves, the Russians, our Allies, and the countries of Central and South America. The resultant performance was certainly the most effective to date.

Pursuant to this confronting, there is the evaluation of the reality factor. It is decided what is relevant and what is irrelevant. If it is discovered by cost accounting or any other procedure that the cost is insignificant or the value is negligible, then that factor is discounted or disregarded. If it is determined by research in extension study that the practice of cultivating or discing so many times or breeding animals at such an age for the

first time, etc. are significant, then the factor becomes relevant and must be accounted for.

There is also the evaluation of the factor's rationality or irrationality. This quality is related to the total situation. For example, if the Director of Marketing sets his sights on a fifteen million annual sales forecast and budget, but the engineering department has not developed to the point of releasing an effective solution and the manufacturing division is ill equipped to produce more than eight million, then it is an irrational evaluation of the current situation.

The next factor is the consolidation of strengths, advantages or critical factors. Following the evaluation, it enables the manager to capitalize on those resources, conditions or processes in the situation which will pay off. As in the illustration of the missile, the thrust is a critical factor. With most organizations there are times when it is most advantageous to exploit the market or demand. In the earlier illustrations, it was obvious that at times research and development were most advantageous; at other times, the expansions and development of facilities; and at others, the concentration on competitive margins. This factor is built on the total awareness of the situation, the definition of its limits, confronting these demands, evaluation of the most relevant and rational. The accurate and realistic assessment of these factors may reveal only small margins of difference, but they may prove the significant difference between effective performance and less than adequate performance.

The final factor is the integration of all these resources, inputs, outputs, processes, and these differences into a solution. Inasmuch as you can readily see I was not born on a farm and have extreme difficulty with the jargon, I would like to suggest one analogy that is closely associated with agriculture but fundamental to all to illustrate this last point.

It is the natural science illustration of the sperm and the ovum, which represent to us the ultimate in potential combinations and permutations of individual differences in the situation--the maximum of resources. Unless there is awareness of each other factor and their determination, there is never confrontation. Unless there is confrontation of the sperm and the egg--nothing ever happens. After the confrontation, biologically there is a quick and efficient sloughing off of unnecessary and irrelevant tissues. Then there is the proliferation of the endoderm, mesoderm and ectoderm tissues with their final specialization into glandular, hormonal tissues and organs, and ultimately integrated into a phenomenally effective organism.

However, if any one of these processes in responding to reality is omitted or inadequately consummated, nothing happens or it is a monstrosity. Therefore, we can say justifiably we have created a successful solution--our performance is a creation.

There is an interesting corollary that Dr. Harold Anderson proposes in his studies of creativity. Creativity is only in the moment of NOW. If we ignore parts of the reality, if we endeavor to repeat, duplicate, mimic, copy, maintain, if we fail to define relevant and rational factors, we are not creative. It is like the engineer that asked if he made a decision regarding a technical situation last week, why does he have to reconsider it again this week. I suggested that even a review would be advisable to assure him that all the facts, all the resources, all the inputs had remained the same, static--including himself.

BIBLIOGRAPHY

American Management Association Bulletin, No. 6, Executive Committee Control Charts, 1959.

Argyris, C. Personality and organization. New York: Harper, 1957.

Bass, B. M. Leadership, psychology and organization behavior. New York: Harper, 1960.

Bennis, W. G. Revisionist theory of leadership. Harvard Business Review, 1961, 39(1), 26.

Blau, P. M. Bureaucracy in modern society. New York: Random House, 1956.

Boyles, B. R. An investigation of organization effectiveness using multivariate analysis. Unpublished Master's Thesis, Michigan State University, 1962.

Brayfield, A. H. & Crockett, W. H. Employee attitudes and employee performance. Psychological Bulletin, 1955, 52, 396-424.

Burt, C. L. Correlations between persons. British Journal of Psychology, 1938, 6, 339-375.

Cartwright, D. & Zander, A. (Eds.) Group Dynamics: research and theory. Evanston, Illinois: Row, Peterson, 1953.

Cattell, R. B. Factor Analysis: an introduction and manual for the psychologist and social scientist. New York: Harper, 1952.

Craig, P. G. Remarks on the measurement of productivity. Unpublished communication, 1957. (Cited by Stogdill, R. 1959, pp. 204-5).

Dale, E. Planning and developing the company organization structure. New York: American Management Assn., Research Report #20, 1952.

Dent, J. K. Organization correlates of goals of business management. Personnel Psychology, 1959, 12.

Doblin, Jay. New Directions in Design, Interiors, Office Design Section, November 1962, p. 118-124.

Drucker, P. F. The practice of management. New York: Harper, 1954.

Etzioni, A. Complex organizations: a sociological reader. New York: Holt, 1961.

Fleishman, E. A. Leadership climate and supervisory behavior. Columbus, Ohio: Ohio State Univ., Personnel Research Board, 1951.

_____, and Harris, E. F. Patterns of leadership behavior related to employee grievances and turnover, Personnel Psychology, 1962, 15, 43-56.

Glanzer, M. & Glazer, R. Techniques for the study of group structure and behavior. Psychological Bulletin, 1959, 56, 317-332 and 1961, 58, 1-27.

Guion, R. M. Criterion measurement and personnel judgments. Personnel Psychology, 1961, 14, 141-149.

Haire, M. Industrial social psychology. In G. Lindzey (Ed.) Handbook of social psychology. Cambridge: Addison-Wesley, 1954.

_____ (Ed) Modern organization theory. New York: Wiley, 1959.

_____ (Ed) Organization theory in industrial practice. New York: Wiley, 1962.

Jacobson, E., Kahn, R., & Morse, Nancy (Eds.) Human relations research in large organizations. Journal of Social Issues, 1951, 7(3).

Kaiser, H. F. The varimax criterion for analytic rotation in factor analysis. Psychometrika, 1958, 23, 187-200.

Katz, D. & Kahn, R. L. Leadership practices in relation to productivity and morale. In D. Cartwright and A. Zander (Eds.) Group dynamics. Evanston, Illinois: Row, Peterson, 1953.

Katzell, Raymond A. Contrasting systems of work organization. American Psychologist, Vol. 17, No. 2 (February 1962).

Kiel, O. & Wrigley, C. F. A criterion for the number of factors to be extracted from a matrix. Unpublished research, Michigan State University, 1962.

Likert, R. New patterns of management. New York: McGraw-Hill, 1961.

March, J. G. & Simon, H. A. Organizations. New York: Wiley, 1958.

McGregor, D. The human side of enterprise. New York: McGraw-Hill, 1960.

Neuhaus, J. O. & Wrigley, C. F. The quartimax method: an analytic approach to orthogonal simple structure. British Journal of Statistical Psychology, 1954, 7, 81-91.

Selznick, P. Foundations of the theory of organizations. American Sociological Review, 1948, 13, 25-35.

Stogdill, R. M. Individual behavior and group achievement. New York: Oxford University Press, 1959.

Tannenbaum, R., Wechler, I. R. & Massarik, F. Leadership and organization: a behavioral science approach. New York: Oxford Univ. Press, 1959.

Thompson, V. Modern organization. New York: Knopf, 1961.

Illustrations of Reality:

Getting Ahead at General Motors, Forbes (Business & Finance), Vol. 90, No. 11, December 1, 1962, p. 20-25.

How Du Pont Keeps Out in Front, Fortune, December 1962, pp. 88-93.

Report of Progress, Michigan State University Publications, 1961-62.

Flow of Costs and Assets Through a Business, Harvard Business Review, March-April, 1960.

The Look of the Land, Time, LXXX No. 19, November 9, 1962, p. 20.

Discussion on the Paper Presented by Dr. Carl Frost

by J. C. Headley
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1. How do you identify able managers in a corporation?

   Able managers in a corporation can be identified by performance. Also involved is the evaluation of the margins of variations in performance.

2. Comment on performance and the association of the reasons for performance and the particular performance.

   Look critically at performance and then ask questions as to why and attempt to associate action with this performance. These actions might include attitude, ability, and the manager's ability to deal with his reality.

3. How do you relate environment to performance?

   The environment is related to performance in that it becomes a part of the reality in which the manager works.

4. How do you identify performance?

   The identification of performance according to our thinking here today requires the definition of reality at the time the performance is required. If the reality calls for one type of performance and the manager provides another type of performance, then obviously he is not measuring up.

5. To what do you attach the reality; that is, at what level?

   The concept of reality can be applied at any level. For instance, to the operator of a lathe his reality is comprised at least partially of the tolerance limits within which he must work. For the top-level management the reality may be the demands of the labor union.

6. How does the past relate to future action?

   We have to anticipate from the past various vectors which seem to be converging on the trend and which will thereby influence future results. This is a matter of judgment.

7. Industrial psychologists are dealing with essentially a static society at a given time. This is not so for a farm. A farmer is both management and labor; how would you deal with a situation such as this?

   We have dealt with family organizations which have some characteristics similar to those of farm firms. The best place to start is to make these people aware that changes are taking place and that they should do something about the changes.

8. Some individuals are more flexible than others to changing situations. In farming we have some people who are not flexible; this is the source of part of their problem. How do you deal with these sorts of people?

> You must get them to make an assessment of their reality which is a true assessment. If they do not accept the reality or if they are not able to determine what the reality is, they cannot be improved until this information is available to them.

9. How does top management evaluate performance?

> Let me give you an example. In DuPont they have the invalid rule which states that any venture must return at least ten percent on the capital investment. This, then, establishes a minimum level for performance. From this point on, performance is relative.

10. Do you see reality related to each product or are these realities assessed as you go along?

> Well, in the normative situation, by that I mean here is the problem and there is the answer or the product, this can be an unhappy situation since new factors which come to play may make the process invalid. The individual worker is the manager of what he has and the important thing is what I call the moment of now and you must have feed-back on the system so that if you get the feed-back which says "failure" then you can do something to rectify the situation. If the feed-back is more successful than the success criteria, then the quality of feed-back becomes very important.

11. In the evaluation of performances is it always past performance?

> This requires what some corporation executives call the projection of "can do" and "will do" qualities into the future. In other words, does the man have the ability or can he do it and secondly, does he have the motivation or will he do it.

12. How does ability to manage transfer between firms or between different jobs within the same firm?

> Managers have three types of skill; they are (a) technical skills, (b) human relation skills, and (c) conceptual skills. As the level of responsibility increases, the importance of technical skill decreases. The type of human relationships change and conceptual skills become more important. Therefore, for persons who have jobs which are essentially made up of technical skills and, if they have not developed the other type, there will not be much chance for transferability of skills. When the person is able to deal with symbolic reality the transfer level is very good.

13. How about using I.Q. to predict managerial success?

> The I.Q. is a pretty good test of conceptual skills and thus may be a guide to the possible success of a manager moving from one task to another. Scores go up as you move up the scale from I.Q.s of 70 up to 120. Above 120 it becomes important what you do with the intelligence.

14. One way to assess a farm manager might be to look at a period or a decision and see how the farmer viewed this or in other words what he did. Another version might be just to look at the outcome of what happened. Which have you been talking about as performance?

> We talked about the dimensions of the manager being input, process, and output. We cannot cut reality off at any particular place; we are interested in output but also interested in process. Is the manager aware of reality and can he talk about it; what does the manager do to find out about reality; can he, does he; can he confront reality; can he eliminate the irrelevant? He must also be able to integrate. These things, then, take the process into account.

15. To what extent is performance process and output?

> Performance is the criterion and output is the result.

16. Is there any difference between farm firms which do not affect their reality and large industrial firms which can affect their reality?

> This is a subjective answer but I feel that farmers have not made use of their resources to affect their reality.

17. Can we test for the person's awareness of reality?

> In farm management I think not; we need to know where to start. This is one interesting point for research.

SELECTION OF MANAGEMENT PERSONNEL:

TRENDS, TRAITS, TESTS, AND CRITERIA

by

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Trends

The value of selection and placement principles and practices in the total employment process is being widely publicized in the burgeoning literature accumulating in the field of selection and placement. England and Paterson (1960) have noted that the persuasive ballyhoo ("try it for yourself") of the earlier literature is being replaced by sober appeals for research on the validity of specific tools in specific settings (Cureton, 1950; Dunnette, 1957; Stagner, 1958).

Accompanying the surge of interest is the relatively new application of selection and placement tools and techniques to management and executive personnel. Certainly, the administration of psychological tests to management personnel is not new. Rather, the awareness that test batteries with standard cut-off scores may be administered on a wholesale basis to select and place management candidates is relatively new. WW II necessitated widespread usage of test batteries in selection programs for military officer candidates. Such programs were soon solidly based on research findings. The adoption by industry of executive selection and placement programs has been slow, indeed. The grounding of civilian programs in solid research has been even slower. Mahoney (1962), after conducting a comprehensive analysis of managerial selection and placement literature, reported only scattered evidence of solid research findings.

A rare exception in Mahoney's findings was a three year study conducted by the Management Development Laboratory at the University of Minnesota. Four hundred and seventy-five managers in thirteen Minnesota firms were studied. A method of combining scores from the Personnel Test, Empathy Test, the California Psychological Inventory, the Strong Vocational Interest Inventory, and a Personnel History Questionnaire was developed on one sample and evaluated on a second sample against a criterion of managerial effectiveness (ratings by other managers familiar with the work of those involved in the study).

The results of the study were presented using several selection ratios:

Selection Ratio		Performance Ratings	
		More effective	Less effective
		%	%
1 in 5	Accepted	29	14
	Rejected	71	86
2 in 5	Accepted	62	29
	Rejected	38	71
2 in 3	Accepted	80	50
	Rejected	20	50

Selection Ratio		More effective	Less effective
		%	%
3 in 4	Accepted	88	65
	Rejected	12	35

(From Mahoney, 1961)

An increasingly widespread use of selection and placement tools is indicated, but the application of such tools will be more and more specifically geared to the situation as programs of research will indicate.

Are managers born or made?

Trait theory

The earliest approach to a study of leadership was concerned with identification of the characteristics which distinguished leaders from non-leaders. Analyses were made of the physical, intellectual, and personality traits of the leader (usually defined as the person holding an "office"). It was reported, for example, that leaders tend to be bigger (but not too much bigger) and brighter (but not too much brighter) than the rest of the members of the group. Evidence indicated that well accepted leaders tend to display better adjustment on various personality tests. Other studies concentrated more upon the leader's skills or job performance than upon the nature of his deeper personality. Findings from such studies indicated that leaders tend to give more information, ask for more information, and make more frequent interpretations about the situation than do the rest of the members.

Stogdill (1948) surveyed the literature on trait studies of leadership and reported that the factors associated with leadership could well be classified under the general headings of capacity, achievement, responsibility, participation, and status. These are defined as:

1. Capacity: intelligence, alertness, verbal facility, originality, judgment

2. Achievement: scholarship, knowledge, athletic accomplishment

3. Responsibility: dependability, initiative, persistence, aggressiveness, self-confidence, desire to excel

4. Participation: activity, sociability, cooperation, adaptability, humor

5. Status: socio-economic position, popularity

Gouldner (1950), in discussing the trait approach to leadership, mentioned "impressionistic" analyses of leadership traits as exemplified by Miller (1920) and Munson (1921). Miller maintained that the outstanding military leaders were typified by a personality structure manifesting self-control, assiduity, common sense, judgment, justice, enthusiasm, perseverance, tact, courage, faith, loyalty, and others. Among the general leadership traits listed by Munson were: personality, manner, use of language, tact, cheerfulness, courtesy, justice, and discipline.

Bertrand Russell added the following: "To acquire the position of leader he (the individual) must excel in the qualities that confer authority: self-confidence, quick decision, and skill in deciding the right measure" (1938).

It appears that many of the trait analyses of leadership have apparently been influenced by the conception of leaders as being in some way unusual beings possessed of extraordinary powers alien to the common run of mankind.

Cartwright and Zander (1960) conclude that the attempt to discover the traits that distinguish leaders from nonleaders has been disappointing. Bird (1940) found that only about 5% of the "discovered" traits were common to four or more studies. Not a very encouraging finding.

Gouldner (1950) summarized the inadequacies of the trait approach thus:

1. Those proposing trait lists usually do not suggest which of the traits are most important and which least. Not uncommonly, lists of more than ten traits are presented. It seems unlikely that each trait should be equally important and deserve the same weighting. Bearing in mind that practical application of leadership studies (e.g. leadership selection or training) requires compromises due to time limitations and the number of candidates available, the failure to indicate the rank order of importance of the traits makes it difficult to know at what points compromises may be made. Raymond Cattell and the other trait-analysts give promise of coping with this problem.

2. It is evident, too, that some of the traits mentioned in a single list are not mutually exclusive. For example Miller lists tact, judgment and common sense as leadership traits. It would seem, ordinarily, that the first two would be included in the last.

3. Trait studies usually do not discriminate between traits facilitating ascent to leadership and those enabling it to be maintained. It seems to be assumed that all the traits which differentiate leaders from followers are functional to ongoing leadership. It appears possible, however, that certain of the traits of leaders were necessary conditions for success in the competition to become a leader but are not needed by an established leader.

4. Typically, most trait studies, and those of leadership are no exception, raise questions concerning the organization of behavior, in range of recurring behavior patterns manifested by individuals. They are largely descriptive. Usually they do not ask how these traits develop, or how the behavior became organized. Thus, there is the tacit assumption that the leaders' traits existed prior to their ascendance to leadership. It is, therefore, inferred that the leaders' possession of these traits is to help explain how he became a leader.

Even in some of the trait studies which maintain that leadership traits are specific to the situation, that the situation makes them useful, it appears to be assumed that the individual already possesses the useful traits when he enters into leadership. The possibility that the reverse is true, namely, that it is the leadership position which fosters the original emergence of distinctive traits, is hardly ever systematically explored. In sum, one usually is not informed whether, and which, leadership traits exist before and which develop after leadership is assumed.

5. Finally, the study of the personalities of leaders, as of any other group of individuals, in terms of traits involved certain debatable assumptions regarding the nature of personality. It seems to be believed that the leader's personality can be, or is, described if all the traits by which it is composed are determined. Implicit is the notion that a personality is the sum of its component traits. This ignores one of the fundamental properties of personality, namely, its possession of organization. The same trait will function differently in personalities which are organized differently.

The situational approach

Stogdill (1948) noted that it is primarily by virtue of participating in group activities and demonstrating his capacity for expediting the work of the group that a person becomes endowed with leadership status. A number of investigators have been careful to distinguish between the leader and the figure-head, and to point out that leadership is always associated with the attainment of group objectives. Leadership implies, according to Stogdill, activity, movement, getting work done. The leader is a person who occupies a position of responsibility in coordinating the activities of the members of the group in their task of attaining a common goal.

The distinction between figure-head and leader becomes even clearer if a leader is defined as the person who is perceived by the group as providing the best means for moving toward the particular group goals of the moment. Thus, a leader may or may not be the incumbent of an "office."

With this definition, then, a leader would, according to trait terminology, possess the particular mental ability, status, skills, knowledge, etc. required by the particular group during a given period. Trait studies of leadership break down into two approaches when the situation is considered: (1) those studies implying or stating that the traits of leaders are universal; that is, that the traits of leaders do not depend upon the situation, that leaders in any situation possess the same traits; (2) those studies which suggest that it is impossible to talk about leadership traits in general, but only about the traits manifested in concrete, particular situations. Leadership traits are conceived of as varying from situation to situation and from group to group.

Two additional assumptions are implicit in the assumption of universal leadership traits: (1) the traits or personal qualities which make an individual a leader in one group should also be useful for leadership in other groups; (2) a man who is a leader in one group should tend to be a leader in other groups. That is to say, that an individual who is perceived by one group as a leader has "got what it takes" and will be similarly perceived as a leader by other groups in other situations. However, this approach breaks down when one realizes that all groups are not equally free to draw from the universe of leaders (there are no women in tank crews and no Ph.D.'s in coalmining crews) and that the character of a group's specific activities further limits who will be elected to leadership. (Physical prowess is important in football squads, not so important in debating societies. Hitler would never make the Boston Celtics).

With respect to those trait studies which focus upon the specific requirements of a particular situation, several researchers have come to the conclusion that:

> ....there is no one leadership type of personality. One man might achieve leadership status because he has superior intellectual endowments which force him consistently upon the notice of others and make them dependent upon him. A second achieves leadership because he has a quiet helpful interest in fellow group members and because what British psychiatrists call his "contact" is good. Leadership resides not exclusively in the individual but in his functional relationship with other members of his group.
> (Gibb quoted in Gouldner, 1950)

Fleishmen, Harris and Burtt (1955) in their evaluation of a foreman training program provided impressive documentation of the importance of the situation to leadership behavior. They found marked improvement in the attitudes and skills of leaders immediately after participation in an intensive training program. Within a few months, however, the foremen had reverted to their pre-training modes of behavior. These investigators attributed this "regression" to the nature of the organization in which the foremen worked. Specifically, they showed that there was often a discrepancy between the behavior taught in the program and the behavior expected by the foreman's supervisor. They concluded that "when what is taught in the school is at variance with what is practiced in the plant, the latter is generally the more powerful influence."

Lippett (1949) was concerned with somewhat the same problem when he designed an experimental training program for people working in the field of intergroup relations. He reasoned that if people were trained as members of teams they could more effectively resist "on the job" regressive pressures by giving support to one another in their post-training activities. The results of the experiment, in which some people were trained as team members while others were trained as individuals showed that those trained as teams were in fact better able to put into practice and to maintain new leadership practices than the persons who were trained as individuals.

Are there traits which are characteristic of leaders across situations? Are leadership traits common to all leaders? Do social scientists today have any reliable evidence concerning allegedly universal leadership traits? According to Gouldner (1950) the answer is "no". However, Gibb (in Gouldner, 1950) said: "There do seem to be certain general characteristics of personality, the possession of which does not necessarily cause a man to have leadership status conferred upon him, but which does place him higher than he would otherwise be on the scale of choice in any group." Intelligence might be one of these characteristics.

At this time there is no reliable evidence concerning the existence of universal leadership traits. Murphy, Murphy and Newcomb (1937) suggest that "If there is such a thing as a psychology of leadership in the abstract, it will arise from studies in which behavior resemblances of leaders in varying life situations are investigated..." In other words, the conduct of situationally-oriented studies, far from impeding, may be the only basis for determining which of the traits of leaders are universal. This is a sound injunction and deserves some amplification.

Whether or not such evidence exists, what reasons may be advanced for expecting that some traits common to all leaders might be found? "Leadership, or leadership traits, are relative to the situation." This means that a

person's traits either develop out of his experience in playing a leadership role or that given types of leadership roles will attract individuals who already possess traits useful in the performance of the role. The diversity of leadership traits mentioned is presumed to be, in one of the two ways mentioned, a response to the diversity of the situation and the group.

Suppose, however, it were demonstrated that all human groups contained some elements in common, and that these could be spelled out. It should, therefore, be expected that there would be some leadership traits manifested commonly by all leaders. In short, there is no reason why leadership traits should constitute adaptations only to the diversities of groups; they should, too, involve adaptations to the similarities of groups. Thus, some leadership traits should be unique, specific to concrete groups and situations, while some could be common to all leaders. (This sounds like a factor analytic discussion of intelligence.)

If this is granted, then several things follow. There is every reason to believe that persisting elements in situations will produce persisting consequences; that some traits of leadership which derive from "long-tenure" features of a situation will continue. Thus, some traits of leadership should, in brief, be common to a group, or social system, over a historical span.

For example: it seems possible that most leaders in contemporary American society, and over our history, have manifested a higher degree of "aggression" than most leaders of Indian culture. Again, ours may be a historical period in which increasing leadership opportunities are available to individuals with "anal-compulsive" traits, readily integrated as they seem to be in bureaucratic situations. People with "receptive", withdrawing or contemplative traits have comparatively little chance for leadership in our society. (Loosely taken from Gouldner, 1950.)

Approaches to measuring and evaluating leadership:

Case histories

Case history evaluations are a common approach employed by many social scientists in the study of leadership. Often associated with this process is intensive interviewing of present or former members of the group to obtain their recollections and present opinions. Heavy reliance on such methods can be found in the works of Elton Mayo (1944) and Rothlisberger (1943). It is important that case history data be gathered with a standard interview (or questionnaire) form so that particularly critical behavior will stand out. Flanagan has proposed the use of critical requirements (1949) and critical incidents (1954) as a means of evaluating case histories. A critical requirement is one which has been responsible for either outstandingly effective or definitely unsatisfactory performance on the job. Critical requirements include attitudes, aptitudes, training, information, habits, skills, abilities and observations of behavior. Critical requirements may be developed from an analysis of critical incidents in case histories.

Job placement

Coups d'etat and other forms of usurpation, as well as observed and recorded legitimate administrative acts, provide another means of inferring leadership indirectly from status attained. Appointment to office and tenure provide

guides to identifying and studying leadership behavior, but do not directly assess leadership. Stogdill (1948) mentions 33 psychological studies of persons occupying positions of leadership varying from fraternity presidents to government administrations.

Categorization of observed behavior

More objective and theoretically based in their initial construction are the categorizations of roles by Benne and Sheats (1948) and the interaction process analysis of Bales (1950). In Benne and Sheats' methods, observers note which of many defined roles are played by the various members of the group. For example, successful discussion leaders of initially leaderless discussions were reliably observed playing the roles of initiator-contributor, opinion-giver, elaborator, compromiser, orienter-evaluator, energizer, and encourager. Bales' procedure further reduced subjectivity. Each action of a member is categorized in one of 12 types falling into four areas. The frequency with which each member exhibits each type of behavior can be measured with high observer reliability.

Choice

Stogdill (1948) listed 28 major studies assessing leadership inferred from choice of associates, and suggested as most exemplary the work of Jennings (1943). This method has been given prominence in the past two decades by the sociometrists. In Bass' theory such sociometric measurements are regarded as more directly assessing esteem, which usually but not always produces leadership.

Ratings

Most common at present is the use of specially developed rating procedures and check lists for studying leader behavior. Stogdill and Coons (1957) illustrated the factorial approach to construction of behavior check lists, beginning with empirical surveys and concluding with theoretically oriented, factorially independent scales of leader behavior. These scales have been used to describe leaders by superiors, associates, and subordinates, as well as by leaders themselves.

Situational tests

Increased objectivity, with high reliability and modest validity of measurement, can be obtained by restricting observations to subjects who are placed in standardized situations, such as the initially leaderless discussion groups where 30 to 60 minute observations are made of the behavior of discussants trying to reach agreement on some problem (Bass, 1954).

More highly refined situational tests have been developed by the American Institute for Research to assess military leadership (Suttell, 1954). Several hundred officers described specific incidents in which successful or unsuccessful leadership was demonstrated. Analysis of these descriptions revealed 28 specific leadership patterns. Realistic problem situations were then developed providing for a number of successful leadership acts to occur. The examinees placed in such situations had to play the role of junior officers responsible for handling the interaction.

In-basket test

A technique similar to that used by Suttell is employed in the in-basket test (Frederiksen et al, 1957 and Greene*). This test was first used by the Frederiksen group to evaluate the performance of administrative personnel upon graduation from administration school in the Air Force, but is readily adaptable for use in selection and placement of management personnel as was done by Greene.

Briefly, the test consists of a carefully chosen sample of the sort of correspondence that might appear in the in-basket of an administrator. The examinee is to read this correspondence under the pressure of a time limit and then indicate his solutions to the problems through memoranda and letters to other members of the hypothetical organization. Performance is scored in terms of the number and adequacy of solutions offered, appropriateness of personnel to whom communication is sent, and awareness of urgency of the problems.

Projective techniques

Along with several other investigators Torrance (1953) presented ambiguous sketches of leader-follower situations to groups. The responses of the groups (stories) appeared to provide reliable indices of the overt effectiveness of leadership within the group.

Indirect information about leader behavior has also been gathered by administering the Thematic Apperception Test to business executives (Henry, 1949). Interesting and somewhat promising uses of a version of the Rorschach and a modified TAT in executive assessment were discussed by Zygmunt A. Piotrowski of Jefferson Medical College of Philadelphia and Sidney J. Levy of Social Research, Inc., at the American Psychological Association meetings September 3, 1962.

Paper and pencil tests

There is, of course, a great profusion of paper and pencil tests on the market -- some good, some bad, and some whose value is not clear. What follows is a very brief list of some of the more popular and perhaps more valuable paper and pencil tests.

Mahoney, Jerdee and Nash (1961) outline a rather thorough use of five different tests combined and employed in a most sophisticated manner. This is cited as an example of what can be done using carefully chosen paper and pencil tests and some rather simple statistics generously mixed with good judgment. The tests used were:

1. Intelligence (reasoning and learning ability)
   The Personnel Test by E. F. Wonderlic (Form B). A twelve minute test of "problem solving" ability which is widely used in industry as a short measure of general intelligence.

2. Empathy (awareness of likes and dislikes of others)
   The Empathy Test by W. A. Kerr & B. F. Speroff. An untimed test requiring estimation of the musical, literary, and social tastes of specified groups of people.

*In private correspondence with the authors.

3. Vocational interests (preference for various occupations and activities)
   The Vocational Interest Blank for Men (Revised) E. F. Strong, Jr. An untimed questionnaire which compares individual likes and dislikes with those of norm groups of successful people in more than 40 occupations, including farming.

4. Personality (temperament and emotional characteristics)
   The California Personality Inventory by H. G. Gough. An untimed questionnaire concerning personal habits and attitudes.
   Scores were obtained for 13 scales measuring: responsibility, tolerance, flexibility, status capacity, dominance, sociability, conservation, resourcefulness, self-assurance, self-control, self-acceptance, conformity, and self-satisfaction.

5. Biographical experiences
   The Personal History Questionnaire designed by the Management Development Laboratory of the University of Minnesota. It was designed to obtain information about behavior experience, and personal and family circumstances.

Other tests often used in the selection of managers are:

1. California Test of Mental Maturity. A rather good paper and pencil test of intelligence. Designed to correlate with the Stanford-Binet scale. Yields eight scores: memory, spatial relationships, logical reasoning, numerical reasoning, verbal concepts, language, nonlanguage and total. Norms are rather good as such tests go.

2. Minnesota Paper Form Board Test. Seems to be useful where "spatial imagery" is required, such as in engineering, architecture, military tactics, drafting, etc. These are, however, on the same order as those gained by intelligence tests.

3. Kuder Preference Record. Probably not as good as the Strong. Nine scores: mechanical, computational, scientific, persuasive, artistic, literary, musical, social issues, clerical.

4. How Supervise by Remmers. Form M for higher level supervisors. A true - false test requiring the examinee to approve or disapprove of statements about supervisory practices. The validity data indicate that it can make a moderate contribution to supervisory selection.

5. Allport-Vernon Study of Values. A scale for measuring the dominant interests in personality based on Allport's theory of personality. Six scores: theoretical, economic, aesthetic, social, political, religious. A well-known and widely used personality test. It measures the relative intensity of these values, not their absolute strength. The language of the test

is too involved for anyone very far removed from the academic setting.

6. Bennett Test for Mechanical Comprehension. It is intended to measure the ability of an individual to understand various everyday physical and mechanical relationships. It consists of 60 items each of which consists of a picture exhibiting one or more objects, physical situations, or mechanical relationships about which a question permitting a categorical answer is asked.

The criterion problem

England and Paterson (1960) have noted a growing awareness in the literature that we may have reached the upper limit of predictability for selection and placement methods using available criteria. This problem can be seen as an "attempt to predict successful interaction between dimensions of an individual, a given job, in a given setting over a given time period."

Thinking in terms of successful interaction among person, job and setting or situation characteristics suggests the impracticability of searching for the criterion measure. Rush (1953) factor analyzed criterion measures for 100 salesmen and concluded, "the criterion for sales success is multidimensional rather than unitary and hence the use of global success or failure would seem undesirable, indeed the use of such all-encompassing variables in validation studies may obscure the underlying relationships."

Boyles (1962) has also demonstrated by factor analysis of a number of measures of performance of a manufacturing organization, that the criterion of effectiveness is multidimensional.

Eddy (1962) reports the same sort of results with respect to the performance of operational departments of a manufacturing organization. Eddy also found that the criterion used by foremen to rank the various departments of a manufacturing organization was multidimensional.

Wallace (1956) put the problem this way:

> "Work on criteria lacks glamour because its pay-off appears mainly to lie in methodology. We need criteria development so we can validate tests, evaluate training methods, compare management techniques. This is so practical that practical men can't be bothered with it. But let us remember that evaluation of management goes on all the time and largely determines what business and industry do now and what they will do in the future. Any gain made in the adequacy of research criteria which can be transferred to operational conditions must inevitably have an immediate impact on industrial and business progress."

A classic example of the trouble this complexity of criterion can lead to was recently reported in Newsweek (1962). A certain Dr. Marcel Viard, French anthropologist turned personnel consultant has been using Euclid's "golden section" to select prospective engineers for an electronics firm in Nanterre. He has been at it for 15 years and his satisfied client claims 95% accuracy. His method is based on the Euclid ratio dividing a line of fixed length into

a larger and smaller section, so that the ratio of the shorter section to the longer is the same as the ratio of the long section to the length of the whole line. This ratio is approximately 1 to .618.

He takes the length of a man's thumb as equal to 1. In the promising candidate this should also be the height of his ear, as well as the distance from the underside of his nose to the base of his chin. The lower joint in the thumb has to be .618 of the length of the thumb, and so should the orifice of the ear in relation to the height of the ear. Arms, hands, legs, and feet must be similarly proportioned. If an applicant does not meet these exacting (and, incidentally, highly reliable) standards--no job. (Newsweek, 1962). Contrast this approach with that of Mahoney et al, 1961 discussed above.

Evaluating such interesting and certainly original selection techniques requires validity studies. Validity studies require clear, relevant criteria. This, we do not always have. Unfortunately, even when fairly useful criteria are available, validity studies are often not carried out. The practitioner regresses to the use of face validity--if it is a selection test it must select the best--and the call of science goes unheeded.

Notions and Comments

This brief review of the psychological literature on leadership and selection makes clear one or two points. First, psychology has no pat, surefire ways to select successful leaders or managers. Even though psychologists have been concerned with the problem of identifying leadership or manager potential for quite a few years, much is still to be learned.

One reason for the difficulty is the complexity of the problem itself. Complexity at both ends of the selection procedure. At the one end, the characteristics, traits, skills or whatever, that make one man better at influencing the interaction of men than another are many, varied and come in an infinite number of combinations. Whether or not a particular individual with a particular combination of traits or skills will be a "successful" leader is at least in part, a function of the situation. At the end of the selection process a similar sort of problem exists. The criterion against which selection procedures are to be evaluated is also complex. What constitutes a "successful" leader is not a simple question. Just as there is an infinite combination of traits that can make a man a leader, there is an equally large number of combination of dimensions and degrees of success as a leader.

A second reason for all the difficulty in the area and especially with respect to this particular project is that the research and theorizing found in the psychological literature is largely concerned with the leadership of people; i.e. influence of A on the behavior of B or the influence of A on the behavior of B and C interacting. This seems to be only a part of the problem in the farm situation. Although there certainly are situations in which people must be "lead" in the sense used above, it would seem that in the farm situation at least as much attention must be given to the skills involved in the management of resources - estimating the probability of events on the basis of incomplete information, and subjectively establishing value for alternative courses of action.

This is not to say that the leadership of work groups does not play an important part in successful farming. It certainly does. But it seems that

leadership in the farm situation requires a larger portion of this decision-making behavior than is involved in the situation studied in the psychological literature under the heading of leadership. Therefore, the information psychology can contribute to a study of leadership in the farm situation should not only come from studies of leadership but also from decision theory or studies of decision-making behavior.

However, the general approach to the whole problem of leadership is still useful. The notion that successful leadership - or perhaps management is a better word - is a function of the interaction of the person, the job and the situation is certainly useful here.

BIBLIOGRAPHY

1. Bales, R. F. Interaction Process Analysis; A method for the study of small groups. Cambridge: Addison-Wesley Press, 1950.

2. Bass, B. M. The leaderless group discussion, Psychol. Bull. 1954, 51, p. 465.

3. Bass, B. M. Leadership, Psychology, and Organizational Behavior. Harper & Brothers, New York, 1960.

4. Bird, C., Social Psychology. New York, Appleton-Century, 1940.

5. Boyles, B. R. An Investigation of Organizational Effectiveness Using Multivariate Analysis. Unpublished Master's Thesis, Michigan State University, 1962.

6. Cureton, E. E. Validity, Reliability & Baloney, Educational & Psychological Measurement, 1950, 10, p. 94.

7. Dunnette, M. D. Use of the sugar pill by industrial psychologists, American Psychologist, 1957, 12, p. 223.

8. Eddy, W. B. Dimensions of Organizational Behavior. Unpublished Doctoral Dissertation, Michigan State University, 1962.

9. England, G. W. & Paterson, D. G. in IRRA Series, Employment Relations Research, New York, Harper & Brothers, 1960.

10. Fleishmen, E., Harris, E. & Burtt, H. Leadership & Supervision in Industry: An evaluation of a supervisory training program.

11. Frederiksen, N., Saunders, D. R., & Wand, Barbara, The in-basket test. Psychological Monographs: General & Applied, 1957, Vol. 17, No. 9.

12. Gough, H. G. California Psychological Inventory Manual, Palo Alto, Calif. Consulting Psychologists Press, Inc. 1957.

13. Gouldner, A. (Ed.) Studies in Leadership, New York, Harper, 1950.

14. Hemphill, J. K. Job Descriptions for Executives, Harvard Business Review, 1959, 37 (5) p. 55.

15. Henry, W. E. The business executive: The psycho-dynamics of a social role. American Journal of Sociology. 1949, 54, p. 286.

16. Jennings, H. H. Leadership and Isolation; A study of personality in interpersonal relations. New York, Longmans, Green, 1943.

17. Kerr, W. A. & Speroff, B. J. The Empathy Test Manual of Instruction, Psychometric Affiliates, Box 1625, Chicago 90, Ill.

18. Lippett, R. Training in Community Relations, New York, Harper, 1949.

19. Mahoney, T. A., Jerdee, T. H., Nash, A. N. The Identification of Management Potential - A research approach to management development. Dubuque, Iowa, Wm. C. Brown Co. 1961.

20. Mayo, E. & Lombard, G. F. F. Teamwork & Labor Turnover in the Aircraft Industry of Southern California. Harvard Business School No. 32, 1944.

21. Miller, A. H. Leadership. New York, 1920.

22. Munson, E. F. The Management of Men. New York, 1921.

23. Murphy, G. Murphy, Lois, Newcomb, T. M. Experimental Social Psychology, New York, 1937.

24. Newsweek, Executives: Out of Proportion. Vol. LX No. 8, 20 Aug. 62.

25. Rothlisberger, F. J. & Diskson, W. J. Management and the Worker. Cambridge: Harvard University Press, 1943.

26. Rush, C. H. Jr. A factorial study of sales criteria, Personnel Psychology, 1953, 6, p. 9.

27. Stagner, R. The gullibility of personnel managers, Personnel Psychology, 1958, 11, p. 347.

28. Russell, Bertrand, Power, A New Social Analysis, New York, 1938.

29. Stogdill, R. Personnel Factors associated with leadership: A survey of the literature. Journal of Psychology 1948, 25, p. 35.

30. Stogdill, R. & Coons, A. E. Leader behavior: its description and measurement. Bureau Business Research Monograph 88, Ohio State University 1957.

31. Strong, E. K. Jr. Manual for Vocational Interest Blank for Men, Stanford University Press, 1951.

32. Suttell, B. J. The Development of a Situation Test to Measure Non-intellectual Officer Qualities. American Institute for Research, Washington, D. C., Feb. 1954.

33. Torrance, E. P. Perception of Small Group Functioning as a Predictor of Group Performance. Research Studies, Washington State College, 1953, 21, p. 262.

34. Wallace, S. R. Contributions to business & industry, Planning for Progress. Pittsburgh: American Institute for Research, March 1956.

35. Wonderlic, E. F. Wonderlic Personnel Test Manual, P. O. Box 7, Northfield, Ill., 1945.

AN APPRAISAL OF PSYCHOLOGICAL AND OTHER TESTS FROM THE STANDPOINT OF THEIR USEFULNESS IN PREDICTING MANAGERIAL PERFORMANCE

by

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In the appraisal of psychological and other tests from the standpoint of their usefulness in predicting managerial performance, let us start with one of the most obvious, but least used, instruments, the biographical data sheet. To most people it is routine, factual, and not very revealing. It often ends in deadly vital statistics. It seems that the methods of using and analyzing the biographical data sheets have not been very productive. There has been a tendency to tally these data into more meaningless statistics.

Quite to the contrary, the biographical data sheet can be a live test situation. It is a complex stimulus experience. Under the circumstances of job application, job record for promotion, transfer or future development, the biographical data sheet has obvious significance to the examinee. How does the examinee handle this reality? Does he resist? Postpone? Even at the vice-presidential level it has been necessary to dun a candidate to fill in and return the data sheets.

Does he follow instructions? Such a simple instruction as to complete in pencil or ink--not typewrite--is often disregarded. The forms are executed beautifully in typewritten form by the candidate's secretary.

Generally, the data sheet requests the recording of the individual's work history, beginning with the most recent position with no omissions during the last ten years. It is not infrequent that one or both of these requests are ignored or violated.

All of these kinds of response to this realistic task are worth some attention--red flags for the investigator to note. They suggest certain patterns of behavior in coping with reality--possibly limited awareness, insight, or flexibility which may or may not be related to conscious or unconscious resentment of authority, insecurities, etc.

There are additional sets of behavior, such as performing the requests incompletely, carelessly, inaccurately, or with conspicuous cross-outs and erasures. Again, these evidences might be considered red flags which might be indicative of limitations or difficulties in handling sets of reality with which he is most familiar--his own personal history.

The biographical data sheets provide opportunity for projection. It is a record of the individual's handling of the reality of the past and his anticipation of the reality of the future. What is his job performance? What are his rationalizations of changes of jobs? Failures and successes? School and other assignment achievements? Received income, anticipated income, and desired income?

The statistical analysis of these data in certain populations indicate that failure in the previous assignment is significant, and failure in a similar assignment is even more significant, in predicting ineffectiveness in handling a new assignment. But, the reasons are to be found in his handling or coping with the reality of these failures and relating them to the next assignment. These reasons are not obtained from a statistic of the biographical data sheet.

It is suggested that we look at this instrument as a test of a reality situation by noting the manner in which it is handled, manipulated, and fulfilled physically as well as by noting the psychological responses to the historical and current reality reported on the data sheets.

We certainly can not ignore the fact that there are a considerable number of instruments used to evaluate specific abilities, interests and aptitudes of managers. Specific validation studies of these instruments may provide certain data which will enable us to understand how and why the person responds to his particular reality.

Let us take a series of them. A reliable indication of the individual's intelligence is helpful. Industrially, it is generally accepted that a first-line supervisor should be in the seventieth percentile in order that he may control his situation better than most of his subordinates by being aware of its totality, analyzing, evaluating, and organizing it, and by being able to learn or adapt in it more quickly.

A general test of awareness of many fields of interest (human relations, commercial, government, physical science, biological science, math, fine arts, sports, etc.) is found in such tests as the Michigan Vocabulary Test.

A simple clerical test, such as the Minnesota Clerical Test, with and without time limitations gives some indication as to the individual's accuracy on routine, clerical assignments and what happens to his clerical accuracy under pressure of time.

A test, such as the Kuder Preference Record, is given to indicate a span of interest patterns (outdoor, mechanical, computational, scientific, persuasive with people, artistic, literary, musical, social service, clerical). Interests are considered to be related to one's motivations and drive.

A somewhat related interest-value test is the Allport-Vernon Study of Values. The pattern of values has been found generally to group as theoretical-aesthetic-religious as contrasted to economic-social-political. The patterns suggest two general frames of reference and consequently different responses to the inferred reality situations.

The application of a simple battery of tests to an industrial situation will illustrate one use. A national organization had employed art-design school and architecture school graduates for their salesmen. When the request was made to determine the effectiveness and the reasons for the effectiveness of these sales people, a battery was used as a part of the study procedure. (Wonderlic Intelligence, Michigan Vocabulary, Minnesota Clerical, How Supervise, Kuder Preference Record, Allport-Vernon Study of Values, Bernreuter, Guilford Zimmerman, Washburne Social Inventory. This number was appropriate for research and instruction purposes of graduate students.) Some of the hypotheses were that a

salesman had to be intelligent in order to cope with structural details of plans for multimillion dollar buildings; had to be relatively totally aware of the current situation to relate to a wide variety of clients; had to be accurate enough under time pressures to develop and make accurate quotations; had to be interested enough in being persuasive with people to want to make and close a sale; had to be value-oriented to economic-political-social values to manipulate all three in their assignments.

Taking the top fifteen percent of all the performers on sales records, a profile was developed. The hypotheses were supported by the data. The interest preference record was the most helpful in that the percentile ranking on being-persuasive-with-people had to be significantly higher than the ranking on any other interest category, if the sales person were to be a highly effective performer. In this population this was the critical test among all of the battery in identifying the top performers.

Katz has suggested that there are three primary skills required of managers at all levels of responsibility. They are technical, human, and conceptual skills. However, it is pointed out that as managers attain higher echelons, the dimensions of the situation or reality change so that there is less emphasis on the technical, a changing emphasis on the human, and an increasing emphasis on the conceptual.

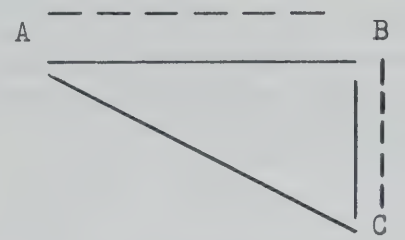
It is assumed that the higher echelon positions are removed from the everyday operations in various degrees, and consequently the need for technical information, know-how, and awareness is less. The factors and data confronting these managers are more global, more periodic, and more symbolic. The change places increasing need for the conceptual skill in handling these factors and data. The time factor is not the immediacy of the daily operation, but the appropriate timing of introduction, interruption, or emphasis of different factors as well as the foresightedness in planning and anticipating. The reassurance of tangible, countable production is replaced by stages of progress toward solutions and evolution of programs.

The changing emphasis in the human factor is away from the direct supervision of numerous individuals toward the development of highly talented, trained, and experienced specialists and to their integration into an effective executive group. It emphasizes the "political" awareness of relationships between and among these men and organizational units.

This concept points out the changes occurring in the situations confronting these managers and the changes demanded in responding effectively and achieving performance. It is also consistent with the increasing emphasis of control and strategies of control rather than of the mechanics and technology of manufacturing--production in its limited sense.

In searching for a means of identifying this conceptual skill, the Bennett Mechanical Comprehension Test has been used. However, research has shown that while engineers performed well, others who exercised this particular skill, i.e., controllers, comptrollers, do not perform well. This skill involves more than mechanical principles. It involves relationships, perspectives, associations, etc. A new test of discerning patterns in complex structures and designs seems to identify the skill as it differentiates within the populations of comptrollers and engineers. Further research is required to determine the promise of this test in identifying this managerial skill.

There is a different and interesting facet of reality represented by the self-concept which has indicated need and merit for further research. As Newcomb would term it in his book on The Acquaintance Process, it is the unitary system of reality orientation.



The solid lines between A and B indicate a relationship between the two people because they are in the same environment and interact, even though not necessarily overtly. They have a relationship. As A responds to C (which may be another person, an issue, a decision, etc.), he infers what B thinks of C. He does not ask B what B thinks of C. We have often thought that the response is contained primarily and exclusively within that individual, A. Newcomb finds that B is a highly relevant factor for A in orienting and responding to C--even though it is only inferred. Consequently, the response is certainly not limited to residence in A. B, actually and inferentially, is very much a part of A's reality.

Now, in the studies of the self-concept, it has been indicated that what A thinks B thinks of him (A) is more important than what B actually thinks of A. We recognize that the majority of the time we do not ask what B thinks of us, but we respond with B very much in mind. So A's inferences of B are very much a part of the reality.

The research indicates further that when there is discrepancy between what A thinks of himself and what A thinks B thinks of him (A), A demonstrates less confidence and accuracy in predicting the behavior and in handling the situation.

These findings indicate that even though this behavior is not overtly articulated, it is important and relevant to identify who these members of the situation are, what are their overt and inferred relationships, and the congruency of their concepts.

In the early studies exploring the abilities considered to be important in the successful performance of managerial or high-level personnel, several hypotheses were formulated in terms of the activities involved.

> Orientation was hypothesized as an ability to see an order or trend in a mass of information and to recognize the pertinent variables operating in a situation.
>
> Prediction was hypothesized as the ability to see beyond the material given.
>
> Elaboration was hypothesized as the ability to produce ideas or representations of ideas that contribute to the development of plans.
>
> Ordering was hypothesized as the ability to arrange bits of information into a meaningful series.

Ingenuity was hypothesized as the ability to find new and different methods of accomplishing a task.

Evaluation was hypothesized as the ability to detect limitations in plans and to determine relative importance of variables.

The following table gives a summary of these planning hypotheses and the corresponding tests as they were devised by the Psychological Laboratory of the University of Southern California:

I. Orientation

a. Sensitivity to Order
1. Matrix Order: discover meaningful sequence and direction of relationship.
2. Seeing Trends: discover and express the trend in a sequence of words.
3. Sensitivity to Order: indicate the change, if needed, to correct a given order of words.

b. Recognition of Variables
4. Pertinent Questions: write four questions, the answers to which would serve as a basis for making a decision in a conflict situation.
5. Awareness of Variables: select five out of 15 given facts that are most important in reaching a decision.

II. Prediction

a. Extrapolation
6. Series: select the figure that goes next in a series.
7. Effects: state four possible effects of some present-day trend at a specified future.
8. Consequences (remoteness): list consequences of certain unusual changes.

b. Foresight
9. Competitive Planning: complete as many squares as possible for each of two opponents.
10. Symbol Grouping: make successive moves of groups of adjacent symbols to achieve a correct order.
11. Contingencies: state a possible condition that might require the use of a given object in a particular situation.
12. Route Planning: locate the one point through which one must pass in tracing a path from corner of a printed maze to goal at center.

III. Elaboration

a. Specification
13. Planning Skills II: write as detailed a plan as possible on some given aspect of a problem situation.

14. Planning Elaboration: fill in as many details as necessary to make a briefly outlined activity work.
15. Figure Production: add to a given marking in order to make a meaningful figure.

b. Production of Alternate Methods
16. Alternate Methods: list as many as six different ways of accomplishing a given task.
17. Match Problems II: indicate 3 or 4 different patterns of matches that can be removed to leave a specified number of squares or triangles.

c. Symbolization
18. Symbol Production: produce symbols of own invention to represent given activities and objects.
19. Line Drawing: draw a single line that expresses the meaning of a given adjective.

IV. Ordering

a. Temporal Ordering
20. Temporal Ordering: list appropriate steps in answer to questions concerning order of steps in different parts of a series.
21. Picture Arrangement: indicate correct sequence of pictures presented in scrambled order.
22. Sentence Order: arrange three sentences in a sensible order.

b. Hierarchical Ordering
23. Outlining I: arrange given statements in outline form.
24. Outlining II: same as above, utilizing different type of subject matter.
25. Word Matrices: complete matrix with given words following a pattern.

V. Ingenuity

a. New Methods
26. Unusual Methods: suggest two unusual ways of dealing with a problem.
27. Verifications: suggest two different methods of demonstrating certain phenomena.

b. New Applications
28. Procedure Applications: find four tasks or instances where a given task procedure applies.

VI. Evaluation

a. Importance of Variables
29. Essential Operations: select the information that is not essential to the solution of an arithmetic-reasoning problem.
30. Ranking of Variables: rank all the given bits of information in order of their relative importance in reaching a decision.

b. Seeing Deficiencies

31. Seeing Deficiencies: point out in what way a described plan or activity is faulty.

More recently a model has been developed by J. P. Guilford at the Psychological Laboratory at the University of Southern California. It may be helpful in providing a workable framework and cues for testing these relationships to reality. This theoretical model of the "Structure of Intellect" is presented in Figure 1. Following are the definitions of the terms used in the model:

OPERATIONS: Major kinds of intellectual activities or process; things that the organism does with that which the organism discriminates. (awareness--reality definition)

Cognition: discovery, awareness, rediscovery, or recognition of information in various forms, comprehension or understanding.

Memory: retention of information in any form.

Divergent production: divergent thinking is generation of information, where the emphasis is upon variety of output from the same source. (definition of reality)

Convergent production: convergent thinking is generation of information, where the emphasis is upon achieving unique or conventionally accepted or best outcomes. (consolidation, emphasis of the critical element)

Evaluation: reaching decisions or making judgments concerning the goodness (correctness, suitability, adequacy, desirability) of information in terms of criteria of identity, consistency, and goal satisfaction. (process of integration)

CONTENTS: General varieties of information.

Figural: information in concrete form, as perceived or as recalled in the form of images. The term "figural" implies some degree of organization or structuring.

Symbolic: information in the form of signs, having no significance in and of themselves.

Semantic: information in the form of meanings to which words commonly become attached, hence most notable in verbal thinking; involved in doing verbal tests, where things signified by words must be known.

Behavioral: information, essentially non-verbal, involved in human interactions, where awareness of the attitudes, needs, desires, intentions, thoughts, etc. of other persons and of ourselves is important.

PRODUCTS: Results from the organism's processing of information:

Units: relatively segregated or circumscribed items of information having "things" character.

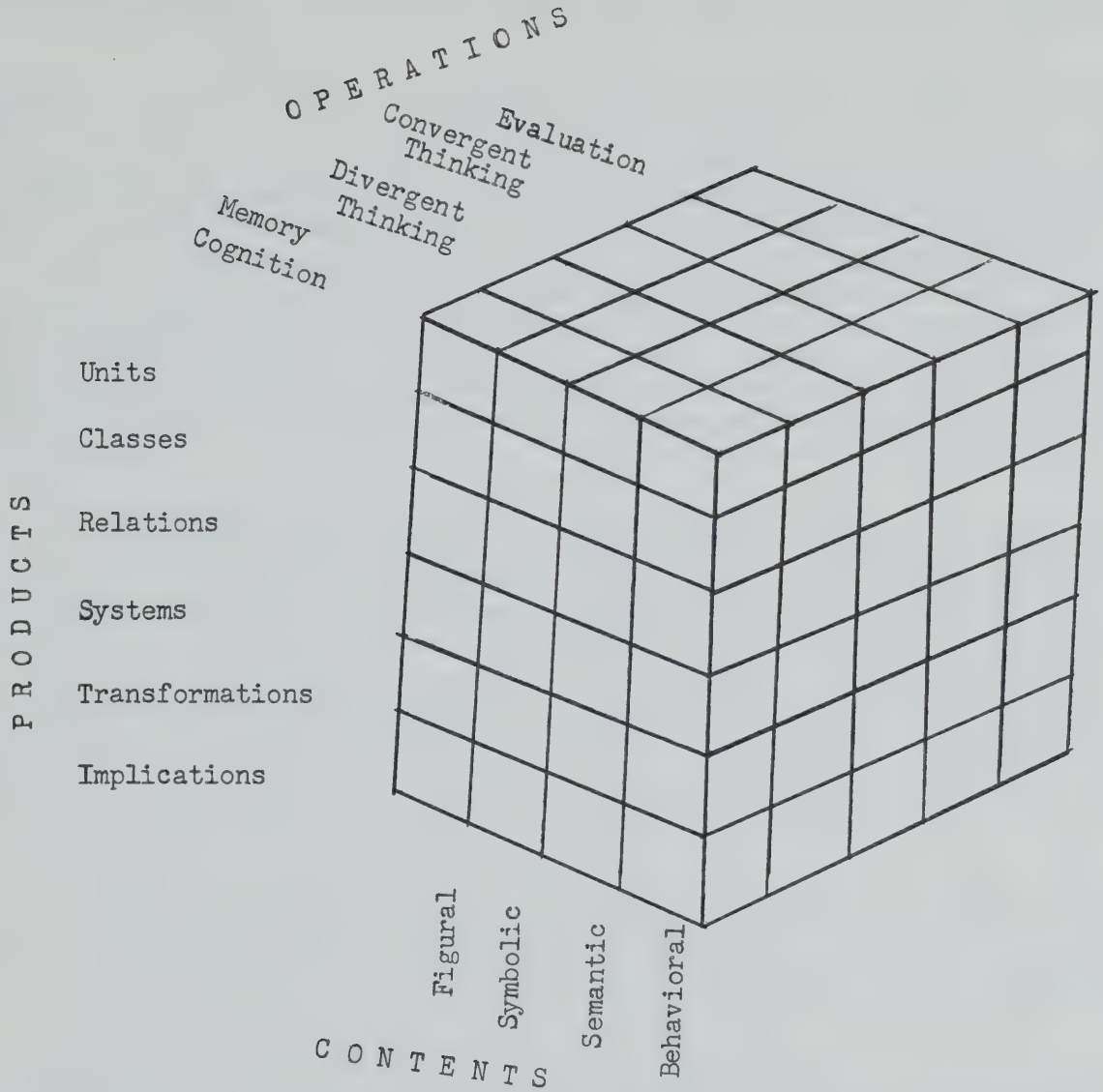

OPERATIONS
Evaluation
Convergent Thinking
Divergent Thinking
Memory
Cognition
PRODUCTS
Units
Classes
Relations
Systems
Transformations
Implications
CONTENTS
Figural
Symbolic
Semantic
Behavioral

Figure 1

Classes: aggregates of items of information grouped because of common properties.

Relations: recognized connections between units of information based upon variables that apply to them.

Systems: organized or structured aggregates of items of information; complexes of interrelated or interacting parts.

Transformations: changes in existing or known information or in its use, as in production.

Implications: extrapolations of information, in the form of expectancies, predictions, antecedents, and consequents.

In the following presentations and discussion we will concern ourselves with the operational factors, particularly as they relate to 1) awareness and determination of the reality, 2) testing the limits of reality, 3) defining the relevant and rational factors in reality, 4) consolidation and emphasis of the critical elements in the reality, and 5) integration of the relevant, rational, critical factors into effective solutions.

The problem of assessment of individuals in areas demanding a high level of performance present a challenge to those interested in new techniques of measurement of effectiveness in coping with reality. There is a clear need for instruments which will measure such complex skills as the ability to organize discrete pieces of information, to discover the problems implicit in a situation, to anticipate events which may arise because of such problems, and to arrive at decisions based on a large number of considerations. These and other skills are continually demanded of manager in key positions.

One such instrument which emphasizes the intellectual abilities and skills of the model in Figure 1 and incorporates the demands of reality, is the In-Basket Test. This is a situational test, simulating a manager's role. A large amount of the daily work of any manager centers around the contents of his "in-basket". The In-Basket Test consists in putting an individual into a realistic situation which stimulates him to deal with such material as a manager or executive might find in his in-basket.

In the role he is given an in-basket containing incoming letters, memoranda, staff studies, policies, letters prepared for signature by subordinates, and other similar material. He is given suitable forms on which to write answers, and his directions as though he were actually on the job.

A common, and often valid, objection to situational tests is that the only reasonable response to a situation is, "it depends." Examinees feel that it is unfair to be presented with a complex situation in four lines and then be expected to describe the best action. An attempt was made to overcome this difficulty in the use of the In-Basket Test by presenting a sufficient amount of information to make it unreasonable to say that the only correct answer is "it depends." This was done in two ways. First, a considerable amount of background information about the hypothetical composite organization or situation was provided for study by the candidate.

In making a decision in a real-life situation one never has ALL the relevant information. In this respect the test situation was probably not greatly

different from a situation in real life.

There is no one-to-one relationship between problems and documents presented to the candidate. Some of the documents are included merely as statements of policy--as additional background information. Sometimes a problem is represented by a combination of two or three documents which are not physically together. In other instances the real problem may not be the one stated by the writer of a memorandum, but rather one which is implicit in what is stated.

It is claimed that a good In-Basket Test is much more adequate as an instrument than any other for measuring complex problem solving ability. This is because an In-Basket Test requires making assumptions, collecting and sorting information, determining the nature of the problem, developing various solutions or partial solutions, eliminating impractical ideas, and making decisions to act. It requires considerable energy and initiative to complete such a test in a reasonable time. Furthermore, one often exposes attitudes such as conservative or liberal, authoritarian or equalitarian, friendly or inconsiderate. Lastly a written record is obtained which can be studied and scored by many persons. This written record often contains more evidence of skills and attitudes than is available to a supervisor who must rate the performance of his subordinates.

Since the In-Basket Test is a sample of behavior, its results should be evaluated with the same variables that are used in appraisals of performance-on-the-job. Three main groups of variables were used in the analysis: 1) reaction to the In-Basket Test situation, 2) structuring activity of the actual performance, and 3) consideration of others in how the jobs should be done.

Under the first variable of reaction to the test situation, there are five variables which seem to apply equally well to a manager's adjustment to his work situation. They are observed and recorded, but not given a numerical score.

1. Planning and Procedures.

   A good planner skims and lists all the sheets, places sheets which bear on the same problem together, and answers them in some integrated fashion. He spaces his time so as to answer all items. He often finishes the most urgent items first. He uses an outline form for his answers, reviews and annotates them.

   A poor planner answers each sheet without reference to the other sheets which bear on the same topic. He ignores timing and usually omits an item or two, inadvertently or by intention.

2. Energy and Motivation.

   These two factors seem to work as a combination, although one is physical and the other mental. Poor energy or motivation are seen in sudden headaches, eyestrain, willingness or eagnerness to quit before finishing, and progressively poorer answers.

3. Anxiety.

   This is usually shown in sweating, excessive questions, expressions of lack of self confidence or ignorance, incessant joking, etc. These should be noted, and if they prevent the individual from

thinking, the test is discontinued. Many persons begin a test with some tension, but soon get over it.

4. Writing Techniques.

In order to avoid having the scores too heavily weighted for writing ability, it is desirable to give separate scores for writing techniques and for judgment. Clarity, organization and other qualities are included.

The individual's skill in organizing sequences and avoiding ambiguous statements or wrong words, separation of related ideas should be noted. While good writing is doubtless an asset in this test, it may also be a liability, if one stresses minutiae instead of the business at hand.

5. Time Needed to Finish the Test.

One man wrote an excellent set of responses in a little less than two hours. Others have done poorly in five hours. The average man has taken about $3\frac{1}{4}$ hours with a fifteen minute intermission. In general the man who takes the shorter time writes the better answers, but this is not always true. There are indications of thoroughness and speed of work from the time needed to finish the test.

The evaluation of the second variable, structuring of the performance on the In-Basket Test has been specifically directed toward the reality factors. It includes making assumptions, analyzing difficulties, searching for possible steps toward a good solution, selecting and timing courses of action and proposing alternatives for various eventualities. Four sub-variables have appeared which seem independent enough to be considered separately.

1. Number of ideas considered.

The number of ideas considered indicates the awareness of reality as well as the identification and definition of the factors comprising the situation.

Thus the scoring of the number of items or alternatives provides for quantity and quality in the handling of the situational factors. It reflects the ability to handle and express both general and specific ideas.

The hypothesis is that effective managers are not only accurately aware of the majority of the factors but also appropriately definitive in determining the relevant and rational factors.

It is apparent that the In-Basket Test can be revised to represent the routine operational situation of the plant manager at one level and the creative, innovating situation of the key executive or research staff member at another level. The In-Basket Tests of the realities would have to be appropriate for the level and function of the managerial personnel. However, the scoring and evaluation of the number and quality of ideas would be appropriate criteria for the variations.

2. Appropriateness of roles.

It must be determined how appropriately the respondent has assigned roles or tasks to himself or others. Misdirection of requests for information are fairly common. This variable reflects the individual's awareness of the functional organization of the company, his willingness to play on a team according to the rules and best information available, his economy of his own time. Good operations demand prompt communication to all concerned, usually through channels. Responsible parties must be asked to help arrive at decisions which effect their operations.

The determination and assignment of appropriate roles indicate the awareness and evaluation of relationships between and among people as they relate to the existent and operating factors and problems in the situation.

The hypothesis is that effective managers are more aware and accurate in the definition and implementation of relationships to effect process and performance in the situation.

Indications of inappropriate action are doing too many things or handling much detail which is normally the duty of someone else, requesting meetings when the work could be better handled without the meeting, going to high level offices with problems which should be effectively handled at a lower level, delegating work to a lower level which should be done by a more responsible person, or requesting the services or advice of an inappropriate agency or source.

3. Progress toward solutions.

It must be determined to what extent good solutions have been planned. In general good solutions are those which build up the organization using:

a. Accurate analysis of individual abilities and performances.
b. Knowledge of the strengths and weaknesses of the organization.
c. Other people to help develop solutions which will involve them.
d. Flexibility to cover most of the unknown but probable future situations.

4. Timing.

It must be determined to what extent the urgency of various actions has been recognized. Certain items are considered to be the most urgent. Some action should be taken on all items during the first two days. The scoring should give appropriate dates for the action sequences for each item. In most cases the sequence requires several days.

The Bell Telephone System has been studying the effectiveness of their managers and of their organization for many years. Mr. Frederick R. Kappel, Chairman of the Board of the American Telephone and Telegraph Company, stated in April 1962, ". . . Our greatest concern in the business . . . is to develop and apply better, surer methods for drawing in and building up the people who can manage the Bell System more effectively in the future than we are doing it today."

Through 1958 this organization had a program of gradual introduction of management trainees. Similar to the findings of most large industrial organizations, such a program required twelve to eighteen months and proved very expensive. Since 1959 they have introduced experimentally a new concept of immediate introduction of the trainee into a complete operational work situation.

For example twenty-five-year-old Bruce Anderson has been carrying out a rough task with good reason for doing it right. In June, 1961, Bruce was still in graduate school at Northern Michigan University. On July 3, 1961, he began work with the Bell System at Michigan Bell Telephone appointed acting plant chief in Bay City, Michigan.

"His challenge: prove by performance over a year-long period in his second-level management job that he has the stuff eventually to progress to and operate effectively in middle management of the Bell System.

"About 200 other young men in numerous sections of the country, college graduates who joined the System in 1961, have been in roughly the same position with Bruce this past year. They are all participating in the Initial Management Development Program. The program is just one new tine of a multi-pronged effort to find new ways to:

attract a higher proportion of top young men into Bell

stimulate their development as managers in greater quantities

develop managers faster than in the past.

"Its method: give men challenging, meaningful work to do in their early days; hold them accountable for success or failure. The people who work with the program believe that to do his best work and give us a truly fair chance to assess him, a young man needs the opportunity to be held accountable for success or failure.

"We owe it to a man and to ourselves to find out as rapidly as possible if he can manage effectively. The way to find out is to let him manage. You're always guessing when you evaluate the potential of young men. But if you've given them real management jobs, if you've expected them to initiate, create and produce, then you're basing your judgment on performance."

These statements illustrate a current study of managerial effectiveness which emphasizes the immediate reality of the operating situation and evaluates the results on the basis of performance.

Pursuant to Hemphill's Studies of Leadership under the Office of Naval Research, we have been interested in the study of the situation as a co-determinant of leadership. The situation might be considered another way of specifying reality. Therefore, in contrast, these studies have been focused on the executive-office environment. Two factors of the situation have been isolated: mobility in the office space and exposure to visual cues or stimuli. Three conditions have been established: 1) condition of considerable deprivation of mobility (lying down on a couch) and visual stimulation (reduced illumination with gray-draped walls), 2) condition of restricted mobility (fixed

chair and desk positions) and visual stimulation (facing neutral wall in usual airy lighted office), and 3) condition of permissive mobility (multiple work areas, surfaces, and facilities) and increased visual stimulation (figures, shapes, objects, numbers, etc. mounted on wall surfaces).

The management subjects were required to perform three sets of tests, representative of their task assignments, under the three experimental conditions. The tests require seeing relationships, divergent thinking, and convergent thinking.

The findings indicate significant differences in the performances of the subjects, being more productive under the condition of permissive mobility and increased visual stimulation than under the other two conditions. These findings suggest the possibility of influencing favorably the performance of executives by introducing the permissive mobility among work stations and facilities and by increasing the visual stimulation of exposed work materials and surfaces--his immediate reality.

In conclusion it might be stated that we have made an appraisal of psychological and other tests from the standpoint of their usefulness in predicting managerial performance, with reality as our principal frame of reference.

We have suggested the dynamic exploitation of the biographical data sheet, the establishment of the basic abilities-interest-aptitude-personality profiles, the identification of the self-concept congruence, and the projected performance of the simulated situation as found in the In-Basket Test. In all of these instruments, the reality factors were primary and central. The performance on these instruments was scored according to the individual's effectiveness in being aware, confronting, defining and evaluating, and integrating the reality factors.

REFERENCES

Frederiksen, Norman, Saunders, D. R., and Wand, Barbara, the In-Basket Test, Psychological Monographs: General and Applied, Vol. 71, No. 9, Whole No. 438, 1957.

Guilford, J. P., Berger, R. M., and Christensen, P. R., A Factor-Analytic Study of Planning, II. Administration of Tests and Analysis of Results, Studies of Aptitudes of High-Level Personnel, Reports from the Psychological Laboratory, The University of Southern California, Number 12, May 1955.

Guilford, J. P. and Merrifield, P. R., The Structure of Intellect Model: Its Uses and Implications, Studies of Aptitudes of High-Level Personnel, Reports from the Psychological Laboratory, The University of Southern California, Number 24, April 1960.

Greene, Edward, Unpublished Industrial Research, In-Basket Test, 1053 Iroquois Avenue, Detroit 14, Michigan.

Hemphill, John K. 1949. Situational factors in leadership. Columbus: Ohio State Univ., Bureau of Educational Research, Monogr. 31.

Henry, W. E. 1949. Business executive--psychodynamics of a social role. Amer. J. Sociolo., 54, 286-291.

Henry, W. E., Executive Personality and Job Success, AMA Selection of Management Personnel, Vol. 1, pp. 327-335 (Editors M. J. & E. Dooher).

Katz, Irving, A Study of the Stability of the Self-Concept and its Relationship to Sociometric Status and Perception, Ph.D. Thesis.

Katz, Robert L., Development of Executive Skills, Harvard Business Review.

Newcomb, T. M., 1960. The Acquaintance Process, New York: Holt, Rinehart, Winston, 1961.

Pearse, Robert F., How to recognize executive ability when you see it, Armed Forces, Vol. 1, No. 1, Oct. 1954.

195 Magazine, American Telephone and Telegraph Company, June, July, 1962.

Technical Report: Selecting employees for developmental opportunities, United States Army Ordnance Corps, July, 1962.

Discussion on the Paper Presented by Dr. Carl Frost

S. Ray Schultz
South Dakota State College

A question was asked about the extent to which a respondent gives a truthful answer to a question.

It was recognized that this was a very basic question. It was suggested that Strong's Vocational Interest Test not be overlooked, since a respondent taking this test could not be all things to everyone. The Washburn Test was also mentioned, with the statement that a truth test is built into it.

It was mentioned that it is very difficult to construct tests that prevent role-playing. But the people in the discipline of psychology have made progress in overcoming this problem. In part, they watch for "red flags," which may not all lie within the test.

There was a question about the problem of feedback. The question was about as follows: To what extent should researchers give feedback when they are studying management performance over time? Dr. Frost replied that the need for integrity implies that we should give feedback; but that when we are doing so, we should be aware of what we are doing.

It was suggested that responding to new situations is somewhat like the metamorphosis of an insect, such as casting off an old skin and growing a new one. In terms of this theme, it was mentioned that a farmer sometimes finds himself confronted with the need to make a big decision - such as, to buy a farm or to quit farming. Then there was the question, "How can we help the farmer see how to make such a big decision - or, how can we predict the farmer's ability to make such a decision?" It seemed to me that the discussion surrounding this question did not lead to any conclusions.

Notes on General Discussions

Robert M. Finley
University of Nebraska

Wills -- Purpose of afternoon period should be to appraise the impact of the symposium on NC-59 activities.

Schultz -- The symposium should help develop new insights but it takes time to incorporate symposium concepts into our thinking and thus this discussion should be abstract. Suggested that a sub-committee look over the information presented and write up their observations.

Justus -- The symposium should strengthen and reinforce certain ideas or assumptions we have been using in the implementing of state projects. However, we do not need another sub-committee.

Sjo -- Since many sub-projects are underway we need to think of the future plans of the regional project. Suggested a station project that synthesizes psychology and economics would be desirable in order to come up with something similar to the Johnson-Haver effort.

Thomas -- Indicated we should be looking for methods to employ Frost's ideas. Warned against going too far afield from farm management studies and indicated we should be looking at the usefulness to farm management of the concepts discussed.

Wirth -- Called for integration of methodology for entire effort lest we all may go off in different directions and end product may have no general application.

Headley -- Pointed out that the project is different than others in that methodology is not as well defined and hence the project has "higher risk".

Shaudys -- Indicated that we have been conceptualizing for two years; thus the next service this committee can perform is to evaluate the contributing projects.

Rieck -- Backed idea of self-survey. Raised question whether we are the people to evaluate or should it be an outside group.

Baker -- Raised the question of what can be done to implement the overall objective or are we firmly committed to techniques, objectives, etc.

Hueg -- If a project review is anticipated, there is a need for considerable preparation and exchange of ideas.

Baker -- Concurred especially with regard to methodology, controls, etc.

Campbell -- Suggested that a resource person, a sociologist perhaps, could make suggestions regarding research techniques, since this is primarily in the field of social psychology. Indicated that an implicit assumption of the Frost presentation is that traits of leadership are also management traits. Posed the question: Is this a valid assumption?

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